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ABSTRACT

This publication concentrates on city problems and special city planning issues in the world's large cities, pinpointing their demographic characteristics, economic structure, available social services, and infrastructures, as well as current issues facing city planners. Profiles of 100 large cities across the world, from Abidjan to Yangon, make up 256 of 301 total pages. Population ranking was not the only criterion for selection of the cities; that would have resulted in a disproportionately large number of cities in China. Most of the cities profiled have populations of more than 500,000, but a few smaller cities were selected to maintain a balanced geographic representation. Cities are included from the following regions: (1) 18 from Africa; (2) 29 from Asia; (3) 24 from Europe; (4) 20 from Latin American and the Caribbean; (5) 4 from Northern America; and (6) 5 from Oceania. These descriptions highlight the tremendous diversity in the experiences of the world's large cities. Increasing urbanization means different things in different places, but it causes a general demand for land, a demand that is one of the major challenges facing most cities in the immediate future. The profiles do not contain any information specifically about education. (Contains 19 general references and 489 references related to the city profiles.) (SLD)

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ED 392 859

THE CHALLENGE OF URBANIZATION

THE WORLD'S LARGE CITIES

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Department for Economic and Social Information and Policy Analysis
Population Division

THE CHALLENGE OF URBANIZATION:
THE WORLD'S LARGE CITIES

United Nations New York, 1995

NOTE

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The designations "developed" and "developing" economies are intended for statistical convenience and do not necessarily express a judgement about the stage reached by a particular country or area in the development process.

The term "country" as used in the text of this publication also refers, as appropriate, to territories or areas.

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PREFACE

The present publication concentrates on city problems and special city planning issues of the world's large cities, pinpointing their demographic characteristics, economic structure, available social services and infrastructure, as well as current issues facing the city planners. The study should make a valuable contribution to the second United Nations Conference on Human Settlements (Habitat II), to be held at Istanbul, Turkey, in June 1996, and serve as a useful benchmark for follow-up actions and future research. It complements the biennial *World Urbanization Prospects** which provides the official United Nations estimates and projections of populations of urban and rural areas and major cities for all countries of the world.

Contained in this volume are profiles of 100 of the world's large cities, including three cities each in China and India, two each from a number of large countries with several large urban centres (e.g., Australia, Brazil, Canada, Colombia, Germany, Italy, Mexico, Russian Federation and the United States of America) and one each from a large number of the remaining countries. Population ranking was not the only basis for the selection of the cities since that would have resulted in the inclusion of a disproportionately large number of cities from China and India. Although most of the cities included in the study have more than 500,000 inhabitants, a few fairly small cities—for example in Oceania, Port Moresby (Papua New Guinea) and Suva (Fiji)—were selected in order to maintain a balanced geographical representation. Unfortunately, it was not possible to include a city from every country because of lack of readily available information.

The cities in each region included in this publication are:

Africa (18): Abidjan (Côte d'Ivoire), Accra (Ghana), Addis Ababa (Ethiopia), Algiers (Algeria), Cairo (Egypt), Casablanca (Morocco), Dakar (Senegal), Dar es Salaam (United Republic of Tanzania), Harare (Zimbabwe), Johannesburg (South Africa), Khartoum (Sudan), Kinshasa (Zaire), Lagos (Nigeria), Luanda (Angola), Maputo (Mozambique), Nairobi (Kenya), Tripoli (Libyan Arab Jamahiriya) and Tunis (Tunisia);

Asia (29): Amman (Jordan), Baghdad (Iraq), Bangkok (Thailand), Beijing (China), Beirut (Lebanon), Bombay (India), Calcutta (India), Colombo (Sri Lanka), Damascus (Syrian Arab Republic), Delhi (India), Dhaka (Bangladesh), Ho Chi Minh City (Viet Nam), Hong Kong, Jakarta (Indonesia), Karachi (Pakistan), Kathmandu (Nepal), Kuala Lumpur (Malaysia), Metro Manila (Philippines), Osaka (Japan), Pusan (Republic of Korea), Riyadh (Saudi Arabia), Seoul (Republic of Korea), Shanghai (China), Singapore (Singapore), Tehran (Islamic Republic of Iran), Tel Aviv (Israel), Tianjin (China), Tokyo (Japan) and Yangon (Myanmar);

Europe (24): Amsterdam (Netherlands), Athens (Greece), Berlin (Germany), Brussels (Belgium), Bucharest (Romania), Budapest (Hungary), Copenhagen (Denmark), Hamburg (Germany), Helsinki (Finland), Istanbul (Turkey), Kiev (Ukraine), Lisbon (Portugal), London (United Kingdom), Madrid (Spain), Milan (Italy), Moscow (Russian Federation), Paris (France), Prague (Czech Republic), Rome (Italy), Sofia (Bulgaria), St. Petersburg (Russian Federation), Stockholm (Sweden), Vienna (Austria) and Warsaw (Poland);

Latin America and the Caribbean (20): Bogotá (Colombia), Buenos Aires (Argentina), Caracas (Venezuela), Guadalajara (Mexico), Guatemala City (Guatemala), Havana (Cuba), Kingston (Jamaica), La Paz (Bolivia), Lima (Peru), Medellín (Colombia), Mexico City (Mexico), Montevideo (Uruguay), Port-au-Prince (Haiti), Quito (Ecuador), Rio de Janeiro (Brazil), San José (Costa Rica), San Salvador (El Salvador), Santiago (Chile), Santo Domingo (Dominican Republic) and São Paulo (Brazil);

Northern America (4): Los Angeles (United States of America), Montreal (Canada), New York (United States of America) and Toronto (Canada);

Oceania (5): Port Moresby (Papua New Guinea), Melbourne (Australia), Suva (Fiji), Sydney (Australia) and Wellington (New Zealand).

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*The latest in this series is *World Urbanization Prospects: The 1994 Revision* (United Nations publication, Sales No. E.95.XIII.12).

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Explanatory notes

Symbols of United Nations documents are composed of capital letters combined with figures.

The following symbols have been used in the tables:

Two dots (..) indicate that data are not available or are not separately reported.
An em dash (—) indicates that the amount is nil or negligible.
A hyphen (-) indicates that the item is not applicable.
A minus sign (-) before a number indicates a deficit or decrease, except as indicated.
Use of a hyphen (-) between dates representing years (e.g., 1994-1995) indicates the full period involved, including the beginning and end years; a slash (e.g., 1994/95) indicates a financial year, school or crop year.
A point (.) is used to indicate decimals.

Details and percentages in tables do not necessarily add to totals because of rounding.

Reference to "dollars" ($) indicates United States dollars, unless otherwise stated.

Reference to "tons" indicates metric tons, unless otherwise stated.

The term "billion" signifies a thousand million.

The following abbreviations have been used in this report:

ADB	Asian Development Bank
AIDS	acquired immunodeficiency syndrome
AMVA	Metropolitan Area of the Abburá Valley (Medellin)
BMA	Bangkok Metropolitan Area
BMR	Bangkok Metropolitan Region
BMTA	Bangkok Metropolitan Transit Authority
BOTABEK	Bogor, Tangerang and Bekasi (districts of Jakarta)
CBD	Central Business District
CCS	County of Cumberland Scheme (Sydney)
CEAMSE	Coordinación Ecologica Area Metropolitana (Buenos Aires)
CITYNET	network of large cities in Asia and the Pacific
CMD	Calcutta Metropolitan District
CMDA	Calcutta Metropolitan Development Authority
CMR	Colombo Metropolitan Region
CTA	Central Transport Board (Colombo)
DKI	special capital area (Jakarta)
DDA	Delhi Development Authority
EDIS	District Public Services Corporation (Bogotá)
EEC	European Economic Community
FLACSO	Facultad Latinoamericana de Ciencias Sociales (Costa Rica)
GDP	gross domestic product
GLD	Guided Land Development (Jakarta)
GNP	gross national product
GRDP	gross regional domestic product
HIV	human immunodeficiency virus
IAURIF	Institut d'management dt d'urbanisme de la region d'ile-de France
IMF	International Monetary Fund
KIP	Kampung Improvement Programme (Jakarta)
KTC	Karachi Transport Corporation
LRT	Light Rapid Transit (Kuala Lumpur)
MCMZ	Mexico City Metropolitan Zone
MUDD	Municipal Urban Development Department (San Salvador)

NADI	(Kuala Lumpur)
NCR	National Capital Region
NEERI	National Environmental Engineering Research Institute (Nagpur, India)
OECD	Organisation for Economic Co-operation and Development
PAMSCAD	Programme of Action to Mitigate the Social Costs of Adjustment (Accra)
PDU	Urban Master Plan (Algiers)
PMU	Urban Modernization Plans (Algiers)
RJMR	Rio de Janeiro metropolitan region
SICAP	Societé immobiliere du Cap-Vert (Dakar)
SOTRA	Societé de transports abidjains
SROP	Sydney Region Outline Plan
SSMA	San Salvador Metropolitan Area
TFR	total fertility rate
TMR	Tokyo Metropolitan Region
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UNRWA	United Nations Relief and Works Agency
WHO	World Health Organization
YCDC	Yangon City Development Committee (Myanmar)

INTRODUCTION

The present publication, which contains profiles of 100 of the world's large cities, highlights the tremendous diversity of their experience. The cities exhibit characteristics, economic structures, levels of infrastructure and degrees of intervention in the planning process that are nearly as diverse as their historical backgrounds. Whereas the African cities are continuing to grow very rapidly, there has been a general slowdown in the rate of growth of most of the largest cities in Asia and Latin America, although they continue to have large absolute population increments. The complexity of the patterns of growth of mega-cities and large metropolitan areas throughout the world poses a major challenge. In the Asian countries, the growth of vast mega-urban regions is taking place and is only beginning to be understood. Whereas growth of those Asian cities is largely fuelled by rapid economic growth, a very different pattern is occurring in Latin America. In many Latin American cities, patterns of urbanization have undergone profound changes over the past decade as a result of structural adjustment. In some cities, for example, as middle-class households have experienced a decline in their standard of living and have moved to the less expensive periphery, many of the poor on the periphery have moved back into the city centre to live in sub-standard housing.

Even in the developed countries, imperfectly understood changes have been taking place. In Europe, for example, urbanization tendencies of the 1980s appeared to have been very different from those of earlier decades. As yet, these patterns are not well documented or clearly understood. It has been suggested, for example, that the counter-urbanization tendency of the 1970s was possibly a temporary aberration, and that many European cities are entering a new cycle of investment and renewed growth.

Considering the pace of urban growth in the developing countries over the past several decades, what is perhaps surprising is the extraordinarily adaptive nature of urban land markets under pressures that had no precedent in the history of the developed countries. The situation is now rapidly changing. Many options previously available to low-income urban populations, such as that of settling in unused public land and low-density central city neighbourhoods, are rapidly disappearing. While the demand for land is growing—indeed, it has been calculated that rapid urbanization is likely to lead to a doubling in size of built-up urban areas in most developing countries over the next 15-20 years—the supply in most developing country cities is both genuinely and artificially limited. Since land is the essential ingredient in all urban growth, devising equitable and efficient land development policies is one of the major challenges facing planners and policy makers in the world's large cities.

In a number of cities in developing countries, there have been virtually no effective measures to influence or control land development. Independent of the degree of intervention, there are a number of similarities. Many of those cities have formulated master plans that include some guidelines on the future directions of urban growth. These master plans rarely, if ever, have been realized. The reasons are simple: the population projections underpinning the master plans were often widely off the mark; hence, on-the-ground uses soon differed widely from land-use patterns in the master plan. Moreover, most master plans had been formulated in too rigid and inflexible a manner and did not allow for readjustments in the light of changing conditions.

Urban transport conditions vary widely among the world's large cities, both in terms of the severity of the problem and the degree of the response. Congestion is severe in many cities, and many have experienced extraordinarily rapid growth in the number of private vehicles. A major response to transport problems of cities in developing countries has been high-cost projects, such as the construction of metros. Much less attention has been paid to improving public buses, which are almost universally overcrowded and poorly maintained. In many of those cities, minibuses, microbuses, collective taxis and other forms of paratransit have filled the gap caused by the shortage of standard-sized buses. Although attempts have been made to control the growth of paratransit through various licensing schemes, this has often proved to be elusive. Transport is an area, however, where relatively low-cost engineering and management measures have had a significant impact on relieving congestion.

A majority of the world's large cities suffer, to a greater or lesser extent, from severe negative externalities in the form of inadequate sewerage facilities, poor drainage, insufficient solid waste disposal, and poor air and water quality. Municipal authorities responsible for these sectors will face very serious problems and challenges in the years ahead.

Water supply problems are among the most serious problems facing cities in developing countries. The deficits are severe in many places. Of course, problems in the water supply sector are quite city-specific, reflecting the unique geographical, topographical and meteorological conditions of each urban area.

In addition to facing problems of bulk supply and over-exploitation of resources, the water distribution systems of many of the world's large cities are obsolete and inadequate, mainly serving the core city originally inhabited by the colonial powers and new middle- and upper-income subdivisions. Many cities have been unable to afford to extend their water distribution networks to the rapidly expanding settlements on the periphery.

One of the major problems affecting water distribution systems is huge system loss. Unaccounted-for-water—i.e., the difference between the amount of water delivered into the system and the amount paid for by consumers, is usually above 30 per cent (or even above 50 per cent) of production in most of the cities in developing countries. In many cities, resources to expand systems are scarce because of the failure to introduce comprehensive cost-recovery schemes, often reflecting the principle that basic services, such as water supply, are social services for which users should not have to pay. While some progress towards sounder pricing policies has been achieved during the past decade, urban water and sewerage continue to depend on large governmental subsidies in many countries.

As is the case of the water supply distribution networks in many cities in developing countries, most sewerage systems were constructed to meet the needs of the colonial population of the core city. Because those cities are growing so rapidly and in such an unregulated manner, their sewerage needs in the coming decades are likely to bear little resemblance to current needs.

Inadequate stormwater drainage may, over the next decade, prove almost as great a threat to the quality of life in the world's large cities as inadequate water and sanitation have in the past. Because the growth of urban population has forced more and more people to occupy low-lying marginal land that is vulnerable to flooding, the population at risk throughout the world has been growing steadily.

Throughout the developing world, cities are being inundated in their own wastes as a result of inadequate waste management policies and practices. A major solid waste problem in cities in developing countries is not one of disposal or recycling but rather of the failure to collect garbage in the first place. Unaccounted-for-garbage—i.e., the difference between the amount of waste generated and the amount collected—is usually over 30 per cent and may constitute 50 per cent of the total. The solid waste problem varies considerably from city to city, with the amount of waste generated tending to increase with the level of development.

Quantification of the extent of water and air pollution in the world's large cities is difficult, because monitoring stations are rare or non-existent. It is widely recognized that many large cities have serious pollution problems. The sources of pollution vary from case to case. In some cities, air pollution is caused by emissions; in others it is from polluting industries. Similarly, water pollution in some cities is caused by industrial contamination and in others it is from leaking sewage.

Water contamination is caused in various ways: discharge of untreated industrial wastes into watercourses; leaching of liquids from industrial or municipal waste dumps into surface or ground water; inadequate treatment of municipal sewage; and hazardous and toxic materials flushed into watercourses during storms because of poor solid waste management. The developing countries are increasingly faced with situations where more advanced pollution issues are raised before control over traditional pollution sources has been successfully achieved. Unfortunately, only a few countries have established comprehensive and realistic environmental protection legislation and regulations needed to manage environmental pollution control.

As in the case of water supply, air pollution is quite city-specific, reflecting differences in climate, topography etc. Throughout the developing world, problems arise from the fact that emissions from vehicles, industrial boilers and domestic heating sources exceed the capacity of the natural ventilation systems of the cities to disperse and dilute emissions to non-harmful exposure levels.

Most mega-cities in developing countries have been less successful than those in developed countries in avoiding negative externalities, such as pollution. The main reason is too little intervention, in part because of lack of public awareness of the problems and of political willingness to address them. Where measures have been adopted, there generally has been haphazard enforcement. Whereas many cities have adopted legislation requiring the relocation of polluting industries, compliance generally has been slow, mainly because of high relocation costs and the disruptive effects of such moves on employment and productivity.

CITY PROFILES:

ABIDJAN TO YANGON

ABIDJAN
(Côte d'Ivoire)

When Abidjan was founded in 1903 by French colonists, it was a coastal fishing village, divided into two by the Ebrié lagoon, located near the colony's capital at Bingerville. In the early 1930s, when construction was begun on a railway to connect plantations located in the interior to the ocean, Abidjan was chosen as the southern hub because of its rocky plateau. Abidjan soon became a bustling town and in 1934 it was designated the capital of Côte d'Ivoire. In 1951 the Vridi Canal was completed, connecting the lagoon with the Atlantic Ocean. This created Western Africa's largest deep-water port and secured Abidjan's place as a commercial and trading centre.

A large modern city, Abidjan is divided geographically into three sections: the Ebrié Lagoon, the coastal strip located in front of it, and the plateau situated to the north. For administrative purposes, the city is divided into 10 communes or governing units, each providing local government and socio-cultural services. Unlike many other African cities, Abidjan has benefited from an urban master plan that was drafted in 1974 and periodically updated to keep pace with its rapid growth. This resulted in better planning and infrastructure than most African cities of its size. Even so, because of its thriving economy, the city has been overwhelmed by in-migration. As a result of migration pressures, the capital was relocated to Yamoussoukrou in 1983 as part of a programme of decentralization. Although no longer serving as the official capital, it remains the country's cultural and commercial hub.

DEMOGRAPHIC CHARACTERISTICS

The population of the urban agglomeration of Abidjan has grown from about 17,000 in 1934, when it was the capital, to 59,000 in 1950 and to an estimated 2.8 million in 1995. The population growth rate for the period 1950-1975 averaged 11 per cent, one of the highest in Africa, but slowed to 5.4 per cent between 1975 and 1990. In 1950, only 2 per cent of the total population of Côte d'Ivoire resided in Abidjan; by 1990, the proportion had grown to 18 per cent and is projected to exceed 20 per cent by the turn of the twentieth century. Much of this growth was the result of rapid in-migration both from rural areas and from less prosperous neighbouring countries. In 1978, it was estimated that only 34 per cent of the population of the city were born in Abidjan, including only 7 per cent of those aged 20 or older.

Owing to better health standards, life expectancy in Abidjan was 56 years in 1989--8 to 10 years higher than the rest of the country. The infant mortality rate was also substantially lower—at 73 per 1,000, compared to 112 per 1,000 in rural areas. The total fertility rate was 5.7 children per woman, approximately one child less than in the rest of the country.

ECONOMY

Côte d'Ivoire was hailed as a model of successful economic development in the 1960s and 1970s. The gross domestic product (GDP) increased at an average of 11 per cent per annum for the period 1960-1970 and 6.5 per cent in the following decade, bringing it solidly into the ranks of middle-income developing countries. Much of this growth was due to high prices of its principal export crops, coffee, cocoa and timber. In the early 1980s, as a result of falling world prices for its principal crops and a severe drought between 1982 and 1984, the economy went into shock. GDP stagnated in 1982 and declined in excess of 2 per cent during 1983-1984. Growth resumed in 1986 but then declined during the period 1987-1990.

Although some efforts have been made at diversification, the economy remains highly dependent on agriculture. The agricultural sector currently provides 75 per cent of the export earnings of the country and employs 60 per cent of the economically active population. There recently has been a push to become self-sufficient in the production of basic foodstuffs in order to save foreign exchange, but that goal has not yet been attained.

ABIDJAN

Despite efforts to relocate industries to the interior, Abidjan continues to be the centre of the industrial sector. In 1987, this sector accounted for 10 per cent of GDP and was dominated by agro-industrial activities, such as the processing of cocoa, coffee and palm oil. Abidjan is also the site of several oil refineries, based on petroleum imports, initially from Gabon and more recently from Algeria. Other industries include automobile assembly, metal works, agricultural machinery, chemicals, textiles and shoes and clothing.

INFRASTRUCTURE AND SOCIAL SERVICES

Most of Abidjan has a well-developed basic network of roads that are generally in good condition. Although daily automobile traffic increased from 4,800 vehicles in 1969 to 14,000 in 1986, traffic congestion is limited to short periods during the day. This is due in part to higher estimates of growth than were actually attained during the late 1980s. Road capacity was expanded in accordance with those higher estimates and traffic has not yet increased to exceed the capacity.

The city has a relatively strong public transportation system, although access in low-income areas remains a problem, partly due to poorly laid out and unpaved roads. As of 1988, 11 per cent of trips were by car, 51 per cent by bus, 7 per cent by taxi, 1 per cent by bicycle and 30 per cent by foot. Bus transport is provided both by a part-private, part-public enterprise named Societé de transports abidjains (SOTRA), which has a fleet of 1,115 vehicles (1985), with availability at any given time of about 82 per cent, and by illegal pirate buses. Based only on the SOTRA fleet, this implies one bus per 1,808 persons, a relatively favourable ratio. The high rate of automobile accidents is a source of growing concern. Abidjan also has a modern airport which is home to 20 airlines.

Abidjan has an adequate and well-managed water supply system, with a 1988 annual supply of 55 million cubic metres, which translates to about 77 litres per capita daily. The city has incurred relatively low operating costs for its water supply because it is located on top of a large and deep aquifer. About 60 per cent of the city's population is served by in-house connections, while most of the remaining population relies on private wells and public standpipes. In the fringe areas, some residents are supplied with trucked water. All of the piped water is metred, and the amount of unaccounted-for water is low at 12 per cent.

The Ebrié Lagoon, on which Abidjan is situated, is becoming increasingly polluted. About half of the pollution is due to the discharge of industrial effluents, and the other half is caused by the pumping of organic sewage from the sewerage system. To prevent the lagoon from further deterioration, a $49.9 million-dollar project was approved by the World Bank in 1989 to treat the waste, improve the sewerage system and divert the remaining waste to a 1.2 kilometre-long ocean outfall/diffuser.

Although the Government has made substantial progress, housing remains a critical problem. It is estimated that 200,000 additional people each year are in need of housing, representing a need for 25,000 units annually, a demand that remains largely unmet. A 1986 study by the Abidjan town planning agency indicated that 54 per cent of city residents were living in traditional village-style houses, 16 per cent in shanty towns and the remaining 30 per cent in modern housing financed by heavy Government subsidies during the period 1955-1980. Some 80 per cent of residents are renters or leasers. Between 1981 and 1984 the Government constructed 72,000 highly subsidized housing units, representing 25 per cent of the total housing stock. However, due to the high cost of construction, the majority of lower income residents are effectively excluded from residing in those new structures.

While Abidjan is considered to have the best sewerage and drainage system in Western Africa, the system has not kept pace with the city's growth. The population serviced by sewerage connections increased from 227,000 to 700,000 between 1976 and 1988, but the population grew even more rapidly. As a result, in 1988, only 35 per cent of the population was connected to the sewerage network, while 45 per cent relied upon septic tanks and leaching pits, and 20 per cent were not served by any form of sewerage.

The lack of adequate sewage disposal has created health problems such as a resurgence of water-borne diseases like guinea-worm and diarrhoeal diseases. Other health problems include respiratory infections, measles and malnutrition, which causes 33 per cent of all infant deaths. There is also growing concern over acquired immunodeficiency syndrome (AIDS). A study by the Centers for Disease Control revealed that 41 per cent of all adult males and 32 per cent of all adult females who died during 1988-1989 in Abidjan tested positive for human immunodeficiency syndrome (HIV). According to a 1991 study, AIDS was the leading cause of death among men and the second leading cause among women.

PLANNING ISSUES

The growth of Abidjan during the past two decades has been the result of rapid in-migration, both from rural areas and from neighbouring countries. In the mid-1980s, the Government began to take steps to reduce both these migrant flows. To decrease the rural exodus, the Government attempted to reduce the disparities between urban and rural areas by promoting balanced regional development.

The Government has also subsidized the construction of infrastructure construction in areas outside Abidjan. Projects included a dam at Soubre and the development of a new port in San Pedro. Incentives were offered to industries to relocate to the interior. In a further attempt to reduce pressure on Abidjan, a programme of political decentralization, begun in the early 1980s, included the creation of a network of medium-sized towns to help attract young people away from the cities as well as the 1983 decision to relocate the capital to Yamoussoukrou.

ACCRA
(Ghana)

Accra has been an important centre of commerce since it became the capital of the British Colony of Gold Coast. Historically one of Africa's richest areas, Ghana experienced a steady decline soon after it became the first sub-Saharan African country to gain independence in 1957. Owing to a successful readjustment programme, the decline seems to have been reversed and Accra is once again a bustling commercial centre.

Greater Accra is one of nine semi-autonomous administrative regions of the country. It is not only the capital of Ghana but is also the largest population centre and the second largest industrial centre, after the neighbouring city of Tema. Together, Accra and Tema form the Greater Accra metropolitan area that covers approximately 3,250 square kilometres.

DEMOGRAPHIC CHARACTERISTICS

The Greater Accra urban agglomeration grew from a population of 250,000 in 1950 to 852,000 in 1970 and to an estimated 1 million in the 1984 national census. The rate of population growth was about 4.5 per cent in the 1950s, 6.5 per cent in the 1960s and slowed to 3 per cent between the censuses of 1970 and 1984. During that period, the city's population density was 438 inhabitants per square kilometre, compared to a national average of 63 inhabitants per square kilometre, the second highest population density in Western Africa.

In the 1980s, it was estimated that 45 per cent of inhabitants had been born outside of Accra; in the age group 25-29, the proportion born outside Accra was even greater at 75 per cent. Although these figures reflect heavy in-migration, the rate of growth of the city remained at 3 per cent due to large-scale emigration of both professionals and unskilled labourers seeking economic opportunities elsewhere.

In 1985, life expectancy at birth was 54 years for both sexes. The total fertility rate was 6.4 births per woman in the country as a whole but was estimated to be lower in Accra. Infant mortality was 98 per 1,000 live births, down from 290 per 1,000 live births in the mid-1960s. Maternal mortality remained high at 500-1,000 per 100,000 live births.

ECONOMY

At the time of independence in 1957, Ghana had the strongest economy in sub-Saharan Africa; it was the world's largest net exporter of cocoa and seemed to be on the path to a prosperous economic future. However, the following 25 years witnessed a precipitous decline in most economic indicators. Gross domestic product (GDP) per capita fell from US$936 in 1981 to US$389 in 1985, reflecting a substantial decline in the standard of living. Inflation was over 100 per cent, Government revenues decreased substantially and infrastructure fell into disrepair. Structural adjustment programmes launched in the late 1980s have stemmed the decline and modest economic growth has been recorded in recent years.

The economy of Ghana is based primarily on agriculture, although manufacturing and mining have played important roles. Ghana has a well-developed manufacturing sector, located principally in Greater Accra, with industries such as food processing, petroleum refining, textile production and timber plants. This sector accounted for 22 per cent of GDP in the early 1970s but fell to about 10 per cent by 1989, after reaching a low of 8 per cent in the mid-1980s. This decline was related to continuing shortages of raw materials, spare parts and problems in planning. Gold remains the principal mineral export of the country, accounting for 15 per cent of all export earnings in 1989. Ghana also has reserves of diamonds, bauxite, manganese and, to a lesser extent, oil.

The International Monetary Fund (IMF) and the World Bank sponsored economic recovery programmes beginning in 1983 that brought about a turnaround in the economy. In fact, Ghana is often hailed by international organizations as a model of successful structural adjustment. The adjustment programme included a severe devaluation of the cedi, limitation of Government expenditure through, among other measures, reduced public-sector employment, elimination of price controls on consumer products, and the divestiture of state-owned corporations. These and other austerity measures, although successful, did not come without a price; indeed, many people faced unemployment, higher prices and lower purchasing power. In 1988, the Government launched the Programme of Action to Mitigate the Social Costs of Adjustment (PAMSCAD) to assist those most affected by the readjustment policies. This programme, financed by the international donor community, sought to generate employment and strengthen community social programmes. Although its success is still being gauged, early indicators show that it is working.

INFRASTRUCTURE AND SOCIAL SERVICES

Another manifestation of the economic crisis can be seen in the reduced ability of the Government to adequately maintain infrastructure and essential services such as transportation, public health and water supply. Although these areas have suffered from more than a decade of neglect, improvements are currently being made.

As of the mid-1980s, there were approximately 940 kilometres of roads in Accra, of which 550 kilometres were paved and 396 kilometres were gravelled. In 1982, there were 36,000 vehicles in Greater Accra, of which 59 per cent were cars, 17 per cent taxis, 12 per cent small buses, 5 per cent large buses, 6 per cent trucks and 2 per cent motorcycles. Public transportation is mostly in the form of route taxis operated by the private sector. In 1984, the Government provided about 20 per cent of daily trips and private operators supplied the remaining 80 per cent.

During the 1970s and early 1980s, the delivery of health services was disrupted by lack of supplies and manpower, owing to the massive emigration of trained medical personnel. Although the Government provides most health-care services, more than 300 non-governmental organizations and Christian missions are also involved. In addition, some hospitals are run by the armed forces or the police. As of the mid-1980s, there was only one hospital bed per 819 inhabitants. Poor nutritional status is a serious problem affecting 50-90 per cent of Accra residents, most of whom are children. Infectious and parasitic diseases, often caused by exposed human waste and poor drainage during the rainy season, are areas of major public health concern.

The management of solid waste has been a serious problem for Accra, but recent efforts are beginning to show results. Traditionally, solid waste was deposited in landfills or sanitary sites. As the city expanded, however, residents had to walk long distances to dispose of refuse, so they began dumping waste on any available open space. Incineration was not an effective means of reducing waste volume because of the high percentage of organic content in the refuse. A loan from Germany provided funds to the City Council for new vehicles and equipment, and in 1986 a massive clean-up effort tackled mountains of garbage that had accumulated over the years. In addition, a system of regular refuse collection was instituted and a partnership with private-sector waste-management services was initiated. Privatization began in May 1992 and coverage is expected to reach 80-90 per cent of the population by 1995.

It is estimated that only 55 per cent of Accra residents have access to safe drinking water, mostly supplied through the Ghana Water and Sewerage Corporation. The Government reports that 92 per cent of residents have access to sewerage and waste collection services, although there have been reports that the system is underutilized because of the high cost of connections. Many of the problems with the water supply system are related to the fact that it has been a victim of prolonged neglect during the financial crisis. Following the recent economic recovery, the Government has made serious efforts to halt the deterioration of those and other basic services.

PLANNING ISSUES

In 1969, Ghana became one of the first African countries to institute a formal population policy. The policy is still in force although implementation has been somewhat erratic. One component of the national population policy is the regulation of internal migration. The Government recognizes that the socio-economic imbalance between urban and rural areas has been a major factor contributing to the rural exodus. In an attempt to narrow the disparity, the Government seeks to raise the standard of living in rural areas by creating additional economic opportunities. A top priority in the proposed rural development strategy is the provision of basic amenities such as electricity, safe water and better roads. Recently, there has been an emphasis on providing educational opportunities in smaller towns so young people do not have to go to urban areas to finish their education. To specifically reduce the growth of Accra, the Government encourages private enterprises to relocate outside the metropolitan area and is decentralizing some administrative functions. To date, however, only one ministry has been moved outside the capital.

ADDIS ABABA
(Ethiopia)

Addis Ababa

Addis Ababa, the capital of and the largest city in Ethiopia, was founded by Emperor Menelik in 1887, and is located near the geographical centre of the country. During the period 1935-1941, when Addis Ababa was the capital of Italian East Africa, modern stone houses were built in the city. Addis Ababa experienced limited changes between 1941 and 1960 but has developed more rapidly since then. The city is linked by railway to the port of Djibouti, which is located nearly 900 kilometres away in the Republic of Djibouti. In 1986, the Addis Ababa region had an area of 222 square kilometres and a population density of 6,735 persons per square kilometre.

DEMOGRAPHIC CHARACTERISTICS

The population of the urban agglomeration of Addis Ababa grew from 209,000 in 1950 to 1.9 million in 1990. The average annual rate of population growth declined from 6.5 per cent during the period 1950-1965 to about 4.8 per cent during 1970-1990. Rural migration has played an important role in the population growth of the city, leading to the expansion of municipal boundaries. According to the 1984 census, 47.5 per cent of the population of Addis Ababa were born elsewhere--5 per cent in the rural areas of Ethiopia, and 25 per cent in other urban areas. The 1984 census yielded low estimates of child-bearing, with a crude birth rate of 23 per 1,000, and a total fertility rate (TFR) of 3.2 children per woman. Women in Ethiopia marry relatively late, with a mean age at marriage of 23.7 years; proportions ever married varied from 47.4 per cent in age group 20-24 to 98.3 per cent in age group 45-49.

On the basis of the 1984 census, life expectancy at birth was estimated at 63 years, infant mortality at 75 per 1,000 live births, and the crude death rate at 7.5 per 1,000 population. A comparison of these estimates with surveys of Addis Ababa conducted in 1967 and 1978 indicates a substantial decline in mortality. Estimates of life expectancy at birth for 1967, 1978 and 1984 were 40, 51 and 63 years, respectively. For the same years, the infant mortality rate was estimated to be, respectively, 170, 117 and 75 deaths per 1,000 live births, whereas the crude death rate was estimated to be 19.5, 15.4 and 7.5 per 1,000, respectively.

ECONOMY

Major products of Addis Ababa include textiles, shoes, beverages, wood products, plastics and chemicals. The city houses most of the service industries of the country. The majority of the export and import trade of Ethiopia are channelled through Addis Ababa through the ports of Djibouti and Aseb. In 1986, the distribution of employees in the city was as follows: construction, 14.8 per cent; manufacturing, 18.9 per cent; wholesale and retail trade, 6.3 per cent; finance and insurance, 7.6 per cent; transportation and communications, 10.2 per cent; electricity, gas, water and steam, 3.5 per cent; and services, 37 per cent.

The 1984 census indicated fairly low open unemployment, although the data may conceal substantial underemployment. Among men with prior work experience, 95 per cent were employed. Similarly, 95 per cent of women with prior work experience were employed. As of 1984, 45 per cent of the labour force in Addis Ababa consisted of government employees, 21 per cent worked for private organizations and 28 per cent were classified as own-account workers, indicating a sizeable informal sector.

INFRASTRUCTURE AND SOCIAL SERVICES

Addis Ababa has a shortage of infrastructure and social services, with most of the population lacking access to such facilities. According to the 1984 census, a minority of housing units had modern wall materials (10 per cent), while the predominant wall type was wood and mud (82 per cent). Roofs, however, were predominantly modern, with 93 per cent consisting of corrugated iron sheets. Flooring was of traditional earth and mud in 51 per cent of housing units and was otherwise of wood, cement or plastic. In

1986, the average number of persons per household in urban areas of Addis Ababa was 3.0. In 1984, the city had more than 267,000 dwelling units.

Water reserves in the city are not sufficient to meet the demand. In 1992/93, about 57 per cent of dwelling units had running water, and only 0.4 per cent had toilet facilities hooked up to a sewer. According to the1984 census, about 90 per cent of housing units were supplied with electricity, whereas some 30 per cent lacked any form of toilet facility. Among the remaining 70 per cent, most shared a toilet with another household. Only 12 per cent of toilets were of the flush type, while 57 per cent were dry pit latrines.

Statistics from the 1984 census indicate that 89 per cent of children in age group 7-15 were attending school. The census also indicated higher proportions of literate among younger people than among older residents. Some 94 per cent of age group 15-19 was literate, compared with 26 per cent of the population aged 65 or over.

ALGIERS
(Algeria)

Algiers, the capital of Algeria, was a small cluster of dwellings until it was colonized by the Turks in the sixteenth century. In the seventeenth century, the city had 100,000 inhabitants, with about 15,000 buildings. In 1830, the French displaced the Turks and the city was transformed; the Muslim population decreased and was segregated in specific areas of the city whereas the European population increased. The war of 1867-1868 and the colonial conquest had a powerful demographic impact on Algiers; the city experienced a long period of demographic stagnation and recovered its 1830 population size only in 1906. The colonial administration strengthened Algiers by linking it to the interior by a network of roads and railways. The development of steam shipping made Algiers more accessible to other Mediterranean ports and turned it into a refueling point between Western Europe and Sicily. Algiers became a cornerstone of the French colonial empire and was made the seat of the provisional government of Free France during the Second World War (1943-1944). After independence, the city became Algeria's primary urban centre.

DEMOGRAPHIC CHARACTERISTICS

The urban agglomeration of Algiers experienced an accelerated rate of growth after independence. Urban growth increased in 1954 and reached a climax between 1962 and 1966, mainly due to the influx of migrants from rural areas, where living conditions had rapidly deteriorated. Algiers grew from a population of 437,000 in 1950 to 960,000 in 1966. After 1966, population growth continued at a somewhat slower rate and the city reached over 3 million inhabitants in 1990. According to the United Nations *1994 Revision*, Algiers had a population of 3.7 million and will reach 5.8 million by the year 2010. The annual population growth rate decreased from a high of 6.9 per cent in 1950-1960 to about 4.2 per cent in 1965-1990. The high population growth rate is due to a combination of significant natural increase and considerable immigration.

Since the 1970s, the urban area of Algiers has grown by 70 per cent and the ring around the city by 300 per cent. In recent years, the peripheral municipalities have experienced the highest rates of population growth. Two factors have been responsible for this extensive expansion: *(a)* migrants, unable to penetrate the overly dense urban fabric, have settled in the nearby rural areas, turning them into large residential areas that eventually have become linked to the metropolis; and *(b)* there has been relocation of a certain number of activities and facilities away from the city centre and increasing migration from the centre to the suburbs, owing to the saturation of the central areas.

ECONOMY

Algiers is situated at the border of the richest agricultural region of the country, the Mitidja. However, the Government's policy gave priority to industry, so that much of the rich agricultural land was lost to industrial development.

The Government is a major source of employment in Algiers. In 1980, employment in the service sector and public administration accounted for almost 73 per cent of total employment in the city. Other sources of employment include banking, international trade and industry). The manufacturing sector consists of food and tobacco processing, metalworking and the production of cement, chemicals, soap and shoes. As a port of entry for various goods, Algiers imports raw materials, industrial goods and general supplies. Food imports have greatly increased due to the stagnation of the agricultural sector. Exports include wine, vegetables and oranges, iron ore and phosphates. The young age structure of the city, its economic difficulties, exacerbated by declining oil prices in the 1980s, and the significant migration from rural areas reduced employment opportunities. In 1987, about 16.4 per cent of the economically active population were unemployed. As a result, the informal sector has greatly expanded and many areas of the city have been taken over by street vendors and illegal stalls.

ALGIERS

INFRASTRUCTURE AND SOCIAL SERVICES

Compared to the rest of the country, Algiers has relatively modern infrastructure and contains most of Algeria's economic, social and cultural activities, which is one of the factors that has fueled in-migration from other areas of the country. As a result, the city's infrastructure has been unable to keep up with the needs of the population. The infrastructure of Algiers had been conceived for a population of 800,000, whereas the city currently has over 3 million inhabitants. The major difficulty is housing; the housing crisis has resulted in the proliferation of shanty towns and overcrowding of the existing housing stock. The city's horizontal expansion has been limited by the sea in the north, the mountains in the north-west, the Sahel in the south-west and the Mitidja—the rich agricultural plain—in the south. As of 1988, the average rate of occupancy in the urban area was three persons per room; however, in the different districts—usually the oldest and poorest neighbourhoods of the city—it was more than eight persons per room. In the oldest boroughs of the city, where the existing housing stock is in complete decay, and edifices were often collapsing, causing serious damages. Huts and other poorly built structures frequently have been added to existing buildings or are erected over the remains of collapsed structures. Shanty towns have developed on the outskirts of the city.

Although there are well-to-do and modern areas in Algiers, particularly the main and secondary centre of the city, most urban agglomerations suffer from lack of infrastructure. Health services are insufficient, the transportation network is congested, waste disposal is almost non-existent, a large share of liquid waste ends up in the sea, and many districts lack drinking water. The Government has been attempting to alleviate these problems since 1975, relying on several plans for rehabilitation and infrastructure improvement; however, the degradation of many districts requires efforts beyond the financial capabilities of the Government.

PLANNING ISSUES

Soon after independence, in the 1970s, the Algerian Government began to be concerned by the rapid and unstructured growth of Algiers. It decided to take steps in order to limit the rural exodus which was one of the main causes of population growth in the city. The National Development Plan, 1974-1978, provided for Urban Modernization Plans (PMU) aimed at improving the city's infrastructure, regulating its spatial development, and developing its economy. PMU in Algiers was begun in 1976, but only a small part of it had been implemented. During the same period, the Government also launched the Urban Master Plan (PDU) which, based on extensive surveys, organized the spatial development of the agglomeration for a period of 15-20 years. PDU was criticized, however, for being too restrictive and taking too little account of the economic development of the city. The Government refused to allow large-scale industrial development within the urban area and development activities initially planned for Algiers were relocated to the interior of the country. Small private industries were not subject to those restrictions, however, nor were increases in state employment or tertiary sector activities. In 1984, the ministerial council designed a new plan to limit additional expansion, with the aim of protecting the Mitidja, preventing unplanned urban sprawl, reconstructing urban centres and reducing traffic congestion. The city was to be divided into eight "urban sectors", each with its own separate centre and a population of about each. Additional industrial growth was to be confined to a site south-east of the city. All these plans, however, had little effect on Algiers' urban growth.

Eventually, a new plan was designed which proposed the creation of a *cordon sanitaire* around Algiers. It envisioned launching large employment creation and urbanization programmes in the municipalities at the periphery of Algiers in order to divert migration from the city. However, the plan was heavily criticized. It was felt that the development of the municipalities surrounding Algiers would have endangered the Mitidja, which had already been threatened by unregulated industrial development, and might actually increase the attraction of the metropolitan region. Therefore, the Government choose a different strategy, i.e., to deal with the causes of the rural exodus. Besides national policies aimed at reducing regional disparities, such as land reform and an administrative reorganization, the Government implemented several programmes to promote settlement in rural areas. In particular, it decided to establish 1,000 "socialist villages". The purpose of these rural towns was to collectivize the rural population, promote an efficient utilization of collective equipment, enhance rural living conditions, and encourage industrial development. In addition, the Government has intensified administrative and economic decentralization and developed employment creation and infrastructure improvement programmes to promote the development of other cities in the country.

AMMAN
(Jordan)

Amman, the capital and the largest city of Jordan, is a landlocked city located in Amman Governorate. Remains of settlements from remote antiquity (4000-3000 B.C.) have been found in the area. The city was the capital of the Ammonites (around 1200 B.C.) and was conquered by the Romans, Islamic forces and the Ottoman Turks. Amman experienced gradual spatial expansion during 1921-1947. During that period, the city area grew to 2.5 square kilometres, whereas the population increased from 10,000 to 40,000 (in-migration from the Syrian Arab Republic played an important role in that population growth). Amman's development was accelerated after Jordan's independence in 1946. Growing rapidly, the urban area received a large influx of Palestinian refugees after the Arab-Israeli War of 1948-1949 and the Six-Day War of 1967.

In 1987, the Municipality of Greater Amman was formed, combining the Municipality of Amman and several other municipalities, villages, councils, rural areas and the new town of Abu Nuseir. Greater Amman has an area of 528 square kilometres, encompassing both urban and rural areas with a population of about 1.2 million. High natural increase and in-migration have both contributed to the growth of the city.

DEMOGRAPHIC CHARACTERISTICS

The urban agglomeration of Amman has grown from a population of about 90,000 in 1950 to 1.09 million in 1995. Migration has played an important role in the growth of Amman. The average annual rate of population growth declined from a high of 8.8 per cent during 1950-1960 to about 5 per cent during 1970-1980, and then fell further to 4.6 per cent during the period 1985-1990. The concentration of population in Amman Governorate increased from 48 per cent of the total population in 1961 to 55 per cent in 1979. It is expected that the population of Amman will grow to 1.5 million by the end of the twentieth century. As of 1985, population density in built-up areas of Greater Amman had been decreasing, with the exception of the city centre and contiguous areas.

ECONOMY

Amman is the chief commercial, financial and trading centre of Jordan. Major industries include food and tobacco processing, and the manufacture of textiles, paper products, plastics and aluminum utensils. There are several industries in the outskirts of the city that manufacture cement and electrical products. Migrants from Amman who work in other oil-rich countries in the region have been an important source of income for the city. In 1985, almost 40 per cent of employment in Greater Amman were concentrated within the Central Business District (CBD). CBD included 60 per cent of all jobs in commerce, 40 per cent of Government jobs and 20 per cent of all jobs in industry. The Government owns and operates most major institutions within Greater Amman.

INFRASTRUCTURE AND SOCIAL SERVICES

According to the five-year plan, 1981-1985, expansion of the city area, natural increase and internal migration have increased pressure on basic services. The absence of a comprehensive land use plan has resulted in the shrinkage of agricultural land because of urban encroachment. Urbanization led to a loss of about 15-20 per cent of land suitable for agriculture, most of which could have been saved through steering urban expansion towards barren areas.

About 54 per cent of urban land in Greater Amman consist of residential development, while industrial development accounts for another 10 per cent. In 1985, there were more than 142,000 households in Greater Amman, with an average household size of 6.3 persons. In the same year, about 10 per cent of the total dwelling stock in Greater Amman were vacant, whereas approximately 141,000 dwellings were occupied. Most of those dwellings (60 per cent), were in low-rise apartment buildings, and about 30 per cent were one- and two-storey villas and houses. The remaining 10 per cent were single-storey dwellings, mainly within refugee camps and informal housing areas.

There are two refugee camps within Greater Amman: Wahdat and Jabal Hussein. The camps were established in 1948 and both are under the responsibility of the United Nations Relief and Works Agency (UNRWA). The Wahdat camp has 8,460 dwellings and accommodates 44,480 persons. The Jabal Hussein camp has 3,287 dwellings with 34,560 persons. The concentration of population in both camps is among the highest in Greater Amman. The camps have commercial areas, schools, clubs, and health and cultural centres. The standard of infrastructure services in the camps, however, is among the lowest in Amman. In 1986, there were also 16 sites within Greater Amman that were occupied by slums and squatter settlements, with a total population of about 51,000, or 7,320 households.

In 1985, registered vehicles in Amman accounted for over 80 per cent of the national total. About 57 per cent of registered vehicles were privately owned which, since 1979, have increased by 12 per cent per annum. The share of private transport increased from 46 per cent in 1980 to 51 per cent in 1985. In 1985, about 30 per cent of trips in Greater Amman were by buses and taxis operating on fixed routes. In the same year, the Public Transport Corporation owned 431 buses; the effective operational fleet was about 350 buses. A major form of public transport is provided by "servis" taxis operating on fixed routes. In 1985, these taxis accounted for 32 per cent of person trips by public transport in Greater Amman. These taxis operate in areas that cannot be served by buses because of narrow streets or steep gradients. Owing to the lack of major highways to by-pass Greater Amman, the urban road network carries a considerable volume of through traffic. Data for the period 1980-1985 indicate that traffic on most of the network was growing at an average rate of about 7 per cent per annum.

Jordan has limited water resources because of its dry climate and relatively scarce and fluctuating rainfall, with annual rainfall ranging between 50 and 600 milimetres, and with high losses caused by rapid evaporation. The present water resources in Greater Amman, however, are considered to be adequate to satisfy existing demand. Total annual domestic water demand within Greater Amman is about 39 million cubic metres. The total estimated available water supply is 50 million cubic metres annually, of which 80 per cent are for domestic consumption and the remaining 20 per cent for industrial uses. The main sources of water supply in Greater Amman are well-fields, springs and surface water. Average daily gross water consumption is between 65 and 175 litres per capita. The proportion of urban households with piped water rose from 49 per cent in 1961 to 87 per cent in 1979.

Greater Amman is served by five sewerage systems. In 1979, 26 per cent of urban households were connected to the sewerage system. According to the five-year plan 1986-1990, the proportion rose to 75 per cent by 1985. Greater Amman also has a stormwater drainage network consisting of about 70 kilometres of drains and covers 40 per cent of the city. They are mainly in older and densely inhabited sections of Amman, with other built-up areas lacking stormwater drainage facilities.

AMSTERDAM
(Netherlands)

Amsterdam is the nominal capital of the Netherlands but not the seat of Government, which is at the Hague. Since the founding of the Dutch East India Company in the early seventeenth century, Amsterdam has been an important financial and securities centre. The Amsterdam Stock Exchange is the oldest in the world. The centre of the city was built in the sixteenth and seventh centuries and is almost intact, with more than 7,000 buildings dating from that period. The inner city is divided by a network of canals into some 90 "islands" that are connected by about 1,000 bridges. Since 1947, the city area has been expanded several times. These expansions, however, have not contributed to population growth.

DEMOGRAPHIC CHARACTERISTICS

The population of the urban agglomeration of Amsterdam grew from 855,000 in 1950 to about 1.0 million in 1970. Between 1970 and 1980, the population gradually declined, reaching a low of 957,000 in 1980. Since then, there has been an upturn in population growth, with the population increasing to 1.1 million in 1995. It is expected that the population will grow to 1.2 million by the year 2010. In 1995, more than 7 per cent of the total population of the Netherlands were living in Amsterdam.

ECONOMY

Amsterdam is the main wholesale, retail and industrial centre of the Netherlands and an important international financial centre. In 1988, about 14 per cent of the total population of the city worked in industry. The most important industries included electro-technical, building, printing, clothing, textile and shoes, chemicals and, to a lesser extent, petrochemical industries. Amsterdam is also the world's largest diamond-cutting centre. Since 1960, the number of jobs in industry has dropped sharply. On the other hand, the commercial and service sectors experienced continued growth until 1970. In 1980, more than 70 per cent of the working population were employed in services.

The city had serious budgetary difficulties when the national government imposed large cuts in federal grants in an effort to reduce the national budget deficit. This forced the city government to cut spending—at a time when there were pressing needs for increased funds to deal with rising unemployment, deterioration of the housing stock and increased needs for policing.

Unemployment is high on the list of issues with which the municipal government has been concerned. The world recession following the oil shock of the 1970s led to serious unemployment in Amsterdam which had not been fully resolved as of the mid-1980s. Unemployment problems in Amsterdam have been particularly acute because its population is not a representative segment of the national population. Amsterdam has disproportionately large numbers of foreigners, the aged and young adults; compared with the national population, the population of Amsterdam is also relatively disadvantaged, less well educated and has limited job experience. As of the mid-1980s, almost 50 per cent of all school-leavers were unemployed. Among ethnic minorities, the figure stood at almost 35 per cent. Further increasing the difficulties in the labour market, an increasing number of women have been entering the labour force. The municipal authorities have diagnosed the problem as being one of matching a large and unskilled labour force to the demands of a modern economy, and they have devoted considerable resources to adult education and job training. They have also established a Job Creation Bureau. Since the city pays 10 per cent of all welfare costs, the increase in long-term unemployment has added greatly to the pressures on the city budget.

INFRASTRUCTURE AND SOCIAL SERVICES

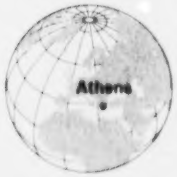
Amsterdam is beset by environmental pollution, traffic congestion and housing shortages. Preventing the deterioration of the housing stock has been a major objective of city authorities. A substantial portion of housing stock in Amsterdam is very old, particularly in the city centre, and in need of either renovation or replacement. After a difficult period in the 1970s andearly 1980s, Amsterdam is now replacing old neighbourhoods with large-scale urban reconstruction. Since 1945, tens of thousands of dwellings have been built, doubling the size of the urban area. Nevertheless, the housing shortage is still a problem that is likely to persist in the near future. Renovation of tens of thousands of dwelling units built during the nineteenth century is a major problem. A large number of additional dwelling units required cannot be built in Amsterdam itself, hence development is being extended to other neighbouring centres. New cities also continue to be constructed on land reclaimed from the sea.

Streets in Amsterdam are narrow and the concentration of employment in the city produces heavy radial traffic flows. Public transportation carries a large share of the passenger load and private cars only a relatively small share. About 20 per cent of the workforce still relies on bicycles for transportation.

PLANNING ISSUES

There is no explicit policy concerning population size of Amsterdam. Greater concern has been attached to maintaining its position as a major financial, trading and commercial centre within the Dutch and European economies, preventing the deterioration of the housing stock, coping with budgetary difficulties and managing social problems. It is believed that economic recovery could lead to a growing dichotomy between the employed and the unemployed, and between those with and without skills and education. The major policy goal of the City Council is to avoid the creation of a dual city of rich and poor, aiming its educational, health, housing, and social and cultural programmes especially at the disadvantaged. It is hoped that such a policy will give all citizens equal opportunities to participate in the various aspects of city life and will make it possible for them to have equal access to public goods and services.

ATHENS
(Greece)



The origins of the city of Athens date back more than two and a half millennia, but little of the original city now remains. The Athens of today is a modern city, which became the capital of Greece in 1833. During the fight for independence, Athens was entirely evacuated in 1927. Development in Athens has been rapid and largely unplanned over the past 20 years, and Greater Athens at present has a sprawling rather than a compact appearance. One result of its rapid and uncontrolled development is the low proportion of land currently occupied by parks and public gardens. The city was almost completely rebuilt after the Second World War, and has expanded north and south along a plain. The southern end of Athens has joined with Piraeus, a major Mediterranean port. While Athens municipality has an area of only 39 square kilometres, in the Greater Athens area there are 56 separate administrative units covering an area of 428 square kilometres.

DEMOGRAPHIC CHARACTERISTICS

In 1833, when Athens became the capital of Greece, the city had a population of about 4,000, which grew grew at a rate of 7 per cent per annum. By 1907, the municipality of Athens had a population of 167,479. In 1921, as a result of the exchange of ethnic minorities between Greece and Turkey, approximately 1.5 million Greeks returned from Asia Minor. Most of the migrants were poor and, in spite of Government efforts to resettle them elsewhere, many swarmed into shantytowns around Athens and Piraeus, increasing the population of the area from 473,000 to 718,000.

The urban agglomeration of Athens grew from 1.69 million in 1950 to 3.69 million in 1995. Population growth was rapid during the 1950s, with an annual growth rate of 2.3 per cent, then slowing abruptly to below 1.3 per cent during 1960-1970, and increasing to about 1.7 per cent in the 1970s. About one third of the population of Greece live in Athens. Migration to Athens, particularly from rural areas, is an important source of urban growth.

ECONOMY

In 1981, Athens accounted for over half of the gross national product (GNP) of Greece, and average incomes of its residents were 60 per cent above the national average. The main economic activities of Athens consist of industrial production and government- and private-sector services. The manufacturing sector includes textiles, steel and primary metals fabrication, petrochemical refineries, transportation equipment manufacturing and electrical machinery production. Athens also serves as a food processing, marketing and distribution centre for the large agricultural economy of the surrounding areas. Tourism is also a major source of employment and foreign exchange.

INFRASTRUCTURE AND SOCIAL SERVICES

It has been estimated that as much as 50 per cent of the growth of Athens since 1945 has been through illegal development. Several types of illegal development have been identified, including unauthorized vertical expansion of the houses through construction of additional storeys, construction of houses without permits and occupancy of public land. To facilitate vertical expansion, legal or illegal, many concrete houses are built with tie rods exposed on the roof to accommodate additional floors in the future, which is usually rented out as a source of income.

The growth of Athens has been associated with a rapid rise in road traffic. The number of motor vehicles nearly tripled between 1971 and 1981, from 256,000 to 734,000. The transit system includes an electrified rail line, buses and trolleys. While automobile use has risen sharply during the past 20 years, use of public transit declined, from 470 trips per capita per annum in 1970 to 170 in 1982-1983. In 1981, privately owned automobiles constituted 72 per cent of the vehicle fleet in Greater Athens. In 1982, automobile ownership was at the level of one automobile for every 5.8 inhabitants in Greater Athens. The average traffic speed in the city centre is between 7 and 8 kilometres per hour at peak periods, with public transport vehicles being slower because of the number of stops they have to make. Besides rising car ownership, other factors that have contributed to the decline in the use of public transport include underinvestment in buses and maintenance depots, absence of traffic management programmes and growth of the taxi fleet.

The increasing number of vehicles has resulted in vehicular emission problems in Athens, aggravating the problem of air pollution. The high pressure weather systems that often occur in south-eastern Europe give rise to frequent temperature inversions. The combination of inversions, location of Athens in a basin and the sharp increase in sources of pollution have given rise to the number of days when Athens suffers from serious air pollution, along with episodes of severe photo-chemical smog.

An artificial lake located at Marathon was the main source of potable water in Athens. This proved to be insufficient, however, because of new building construction. In order to meet the increased demand, the Mornos River, located 110 miles to the north-west, was dammed and tapped to provide potable water for the people in Athens.

PLANNING ISSUES

Urbanization has resulted in excessive concentration of population in Greater Athens, creating numerous problems such as air pollution and traffic congestion. The Government has a programme for improving living conditions in metropolitan Athens, which includes reduction of air pollution, extension of the sewerage network, improvement of waste management facilities, extension of the subway, and conversion of some streets into pedestrian areas. The Government has identified specific population targets for the decentralization of the two major urban centres, Athens and Salonica, and for the strengthening of regional development poles. Special projects have been undertaken to realize these objectives. In order to reduce migration to Athens and slow its rate of population growth, the Government has introduced various policies aimed at stimulating economic development and raising incomes in remote regions and the islands.

BAGHDAD
(Iraq)

Baghdad, located near the geographical centre of Iraq on the Tigris River, has been the national capital since the year 762. It has been an important city in the Islamic world. Since its founding, the city has suffered from destruction caused by foreign attacks, floods and civil unrest and has been rebuilt. In 1985, the city had an area of 863 square kilometres with a density of 5,384 inhabitants per square kilometre. The completion of a dam on the Tigris River north of Baghdad has solved the problem of flooding and has facilitated extensive expansion of the city. Urban expansion has absorbed the medieval townships of al-A`zamiyah and al-Kazimiyah. In the 1970s, the Government attempted to curb horizontal expansion, leading to the development of high-rise buildings.

DEMOGRAPHIC CHARACTERISTICS

Until the 1950s, the fortifications that protected the city from military attacks and the floods that occurred during that period had prevented the expansion of Baghdad. After 1950, as a result of high rate of natural increase and massive migration to the city from rural areas, the population of the city began to grow rapidly, from 600,000 in 1950 to 3.68 million in 1995.

The demographic situation has changed dramatically after the military action carried out by an international coalition that took place in January 1991 and the subsequent enforcement of an economic embargo against Iraq. The Government reports that mortality has increased substantially, especially among children under age 5. Death rates among older people are reported also to have increased, especially from respiratory diseases, hypertension, diabetes and cancer. The lack of supplies and health-care equipment has negatively impacted on the health of the population and is believed to have made them more susceptible to contagious diseases, such as polio, hepatitis and whooping cough.

ECONOMY

Most of Iraq's industry, finance and commerce are located in and around Baghdad. Baghdad Governorate has at least half of the large-scale and much of the small-scale industries of the country. Industries of the city produce a wide variety of goods, including processed food, textiles, tobacco, wood products, furnitures, chemicals, plastics, electrical equipment, and metal and nonmetallic products. The Government owns or controls most of the economic activities of the country.

A large percentage of the labour force of Baghdad work in traditional economic activities, such as retail trade, production of handmade consumer goods, auto and mechanical repairs, and personal services. The Government has been the most important source of employment, providing jobs in the civil service, educational institutions and government-owned industrial and commercial enterprises. In 1985, about 49 per cent of the labour force were working in services, with 18.9 per cent in public administration, 18.6 per cent in mining and industry, and 11.3 per cent in construction and public works.

The economy of Iraq has undergone radical transformation as a result of the economic embargo. Industrial, transportation and communication facilities were extensively damaged during the military activities in 1991, and reconstruction has been thwarted by lack of imported materials. Shortages and high prices are common, while inflation has been relatively high. Before the embargo, the economy was dominated by the oil sector, which provided 95 per cent of the foreign exchange earnings; however, the embargo has severely limited the export of oil.

INFRASTRUCTURE AND SOCIAL SERVICES

The Government has greatly expanded public services in Baghdad beginning in the 1950s in such areas as low-income housing, electricity, water, sewerage and medical facilities. The economic embargo, however, has made it difficult for the authorities in Baghdad to provide basic services, such as drinking water and solid waste collection. The Government reports that unsanitary conditions have resulted in epidemics and diseases.

The number of passenger cars in Baghdad increased from 118,300 in 1980 to about 216,000 in 1985. The number of public buses increased from about 5,580 to 10,300 during the same period. With the shortage of spare parts in Baghdad, vehicles are kept running only if mechanics are able to obtain spare parts from other vehicles.

PLANNING ISSUES

The Government seeks to limit the future population growth of Baghdad. Various programmes have been adopted in order to reduce in-migration, including limiting the purchase of property in Baghdad municipality. There have been several efforts to use urban planning in order to regulate the growth of the city. The Baghdad Master Plan of 1936 called for a maximum population of 500,000, which was exceeded by 1950. The Plan of 1954 proposed a city with a diameter of 18 kilometres surrounded by a two-kilometre-wide greenbelt, which became obsolete due to rapid urban expansion. The Plan of 1958 proposed a rectangular shape of 18 by 31 kilometres. The Plan for the year 2000, drawn up in 1964, took fuller account of the high rate of natural increase and the high level of rural-urban migration. This plan was put into force in 1973 by Government decree. By the 1980s, it became clear that the economic conditions assumed in the plan had changed greatly. The economy had expanded more rapidly than anticipated and the population of Baghdad had grown substantially faster than assumed in the master plan.

BANGKOK
(Thailand)

Following the destruction of the 400-year-old capital city of Ayuthya by Burmese invaders in 1767, a new capital was established by the Thais on the west bank of the Chao Phraya River at Thon Buri. For security reasons, the new capital was moved in 1782 across the river to Bangkok, and the rulers of the Chakri dynasty began the task of national reconstruction, constructing a fortified island city. *Klongs* (canals) were dug in the flat, alluvial terrain, and they served as the city's major transportation arteries for many years. Opened to the west in 1818 after nearly a century and a half of isolation, Bangkok gradually began to absorb western influences. During the 1850s, under King Rama IV, Bangkok developed into an important commercial centre. In the 1860s, beginning with the conversion of an old trail along the river into the country's first land-based transportation artery, Bangkok gradually began to lose its water-borne character.

A century later, Bangkok's role as a major military supply base during the war in Viet Nam led to its emergence as a major trading and commercial centre. Assisted by active tariff protection, Thailand developed a highly capital-intensive, import-substitution type of economy.

DEMOGRAPHIC CHARACTERISTICS

In 1782, the year it became the capital of Thailand, Bangkok had a population of about 400,000. Its population increased slowly, reaching 890,000 in 1937 and about 1.4 million in 1950. Its population had grown to 2.6 million by 1965 and 3.8 million by 1975. The 1980 Population and Housing Census enumerated a population of 4.7 million within the Bangkok Metropolitan Area (BMA). By 1995, the population of Bangkok grew to 6.6 million.

The rate of population growth in Bangkok during the 1960s was 3.7 per cent per annum; it increased to an annual rate of 4.2 per cent during the 1970s. Growth rates declined slightly during 1990-1995 to about 2.2 per cent per annum, and projections show a slight increase in growth into the next century. The absolute increase in the population size will result in a projected 9.3 million inhabitants in the Bangkok urban agglomeration in 2010.

Bangkok has long been Thailand's primate city; no other city in the country has even 1 million residents. Until 1970, nearly two thirds of the country's urban population were residents of Bangkok. That share is declining slowly; in 1990, Bangkok was the home for 58.3 per cent of urban Thais, whereas the United Nations projection for 2010 puts its share at 52.1 per cent.

ECONOMY

The predominant consumer goods industries and import-dependent industries are located in and around Bangkok, which is the leading port, the centre of the country's distribution network, and its largest consumer market. Export industries are also concentrated in Bangkok due to its access to port facilities (through which nearly all the country's exports and 85 per cent of its imports pass), communications and financial services. As of 1983, 32 per cent of gross domestic output was generated in Bangkok and about half of value added. Moreover, 38 per cent of Thailand's industrial firms were located in BMA and about 45 per cent in the Bangkok Metropolitan Region.

INFRASTRUCTURE AND SOCIAL SERVICES

Because approximately 80 per cent of land in the Bangkok Metropolitan Region (BMR) are private, Bangkok's process of urban development has been largely shaped by the private land market. Large areas of vacant land within the urbanized area has been withheld from development, resulting in an artificial scarcity. Another serious problem is that development companies have purchased large areas of agricultural land on the periphery of BMA. The increased value—which in many instances has been due to better accessibility resulting from public-sector investments—has accrued to those developers, whereas the social costs of speculation (e.g., leapfrog development, longer commuting distances, higher commuting costs) have been passed on to the public.

The need for a comprehensive city plan has long been recognized, and efforts to formulate such a plan began more than 30 years ago. It was not until July 1992, however, that the City Plan of Bangkok was available. The lack of planning has resulted in a city where factories and buildings were constructed without prior plans for utilities and services. Even with a plan, the Bangkok Metropolitan Administration lacks authority over many vital urban concerns. For example, city planning is the responsibility of the Interior Ministry; major urban arteries are managed by the Royal Highway Department; the Ministry of Industry monitors industrial pollution; and electricity, water supply and telephone services are controlled by three other governmental authorities.

There has been rapid growth of the private housing market in Bangkok in recent years. Although private developers did not enter the market until the late 1960s, they made rapid inroads, constructing a total of 122,490 units by 1984, compared to only 18,690 units up to 1974, an increase of more than 650 per cent. Beginning in the early 1980s, demand for middle-income housing, particularly in suburban areas, began to weaken because of rising construction costs, high land prices, high commuting costs and lack of availability of housing finance. To reduce construction costs, developers began constructing terraced housing (townhouses), shop-houses and condominiums. However, the market for such units, and particularly for units at the top end of the market, rapidly became over-built. As a result, developers are currently concentrating mainly on redevelopment and renewal of inner city areas (e.g., Pom Prap, Phra Nakohn and Samphan Thawong) located close to employment opportunities.

Bangkok's water supply situation remains less than satisfactory. As of 1980, 66 per cent of households in the BMA had piped-in drinking water, 8 per cent piped-out water, 4 per cent well water and 2 per cent communal well water. The remaining 20 per cent of households obtained water from other sources. At least 100,000 persons are estimated to obtain water directly from canals and waterways that are grossly polluted by human waste and industrial effluents. Canals in the central city are black with pollution and unable to support marine life. Other problems in the water sector are the unreliability of supplies and a high degree of leakage.

One of the most serious challenges facing planners in Bangkok is extensive seasonal flooding. The problem of slow storm-water runoff during the early part of the monsoon season is compounded by overflows from the river, in-flooding from up-country areas, and high spring tides in the Gulf. Because of the gradual obstruction of much of the city's natural drainage system, caused by the conversion of irrigation and drainage canals to roads and the filling in of other canals as part of the malaria eradication programme, the problem of seasonal flooding has been serious.

A system of earth dikes to keep water from flowing in from the north-eastern plain, as well as pumps and water gates to drain the protected areas, has alleviated flooding in parts of Bangkok. BMA cleans drainage pipes annually and continues to install pumps and water gates. At the present time, if it does not rain more than 50 mm. within two hours, most of the protected area can be drained before flooding occurs. Other dikes, pumps, and water gates are under construction in eastern Bangkok and Thonburi to provide protection for the population in those areas.

Environmental conditions in Bangkok are generally poor. Only about 80 per cent of the 2,740 tons of solid waste generated daily is collected; moreover, about half the collected waste is left to decompose. Bangkok has no water-borne sewerage system and relies mainly on pour-flush latrines and septic tank systems. In some slum areas, the houses are constructed over a permanent pool of black, fetid water, and people simply throw their garbage out the windows, causing conditions to deteriorate further. BMA has launched a programme that involves active participation of community residents in cleaning up the stagnant water in their neighbourhoods.

BANGKOK

Bangkok suffers from serious traffic congestion over wide areas of the city and for long periods of the day. Trips are long and unpredictable. Traffic flows build up early in the morning, with traffic moving at an average of 14 kilometres per hour, continue at a stable level throughout the day, and reach their peak in the evening rush hour, when traffic moves at an average of only 13 kilometres per hour. An estimated 7 million person-hours are wasted daily in traffic jams. Because of the large number of poorly maintained motor vehicles, air pollution from faulty exhausts has exceeded tolerable levels. A government regulation now requires that all cars be equipped with catalytic converters.

Traffic congestion in Bangkok reflects several interrelated problems. Partly because of relatively low fuel prices during the 1970s and low automobile taxes, Bangkok's level of private vehicle ownership is relatively high. The number of vehicles had reached 2 million cars and 900,000 motorcycles by the end of 1992, when about 500 cars and the same number of motorcycles were being registered every day.

Prior to the construction of the 29-kilometre First Stage Expressway System, there had been little investment in primary roads for many years. The privately built secondary and tertiary road networks were built up over the years with little planning; they consist largely of narrow, winding and unconnected streets and culs-de-sac. The road network is sparse in certain areas, and distributor roads are needed. Improvement of the road network has been severely hampered by the problem of land acquisition. BMA does not have compulsory powers of eminent domain, and there are numerous examples of missing links that have not been completed because of the inability of the authorities to acquire rights-of-way. Travel demand greatly exceeds the capacity of the road network.

Although Bangkok has high levels of private vehicle ownership, more than two thirds of daily person-trips, or about 5 million trips, are made by public transport. The Government-owned Bangkok Metropolitan Transit Authority (BMTA) was created in 1976 through the consolidation of 22 private and two public bus companies. It is the major passenger carrier, carrying 85 per cent of the total passenger load in its fleet of 4,000 buses. The bus fleet is old and in poor condition, with insufficient capacity to meet public demand without severe overcrowding. Partly because of government control of bus fares, which prevented BMTA from raising fares and establishing itself on a financially viable basis, BMTA has had operating losses of more than 2 million baht per day and is heavily in debt.

In addition to the bus fleet operated by BMTA, there are 4,500 legal minibuses (2,200 of which operate on the main roads and 2,300 on feeder roads), and some 5,000-10,000 illegal minibuses. Although the number of vehicles is, in principle, controlled by vehicle licensing, there are many unofficial vehicles on the road. In an effort to improve traffic management, the municipal authorities have introduced over 100 kilometres of exclusive bus lanes. Whereas the with-flow lanes have been ineffective, mainly because of lack of enforcement, the contra-flow lanes have worked moderately well.

To supplement the overcrowded bus system, BMA recently began rudimentary boat passenger service on a few canals. The service was quickly oversubscribed, in spite of the unpleasantness of the canal water, demonstrating the degree of sacrifice people are willing to make to get to their destinations faster.

Bangkok is one of the largest cities in the world —outside China—that does not have some form of segregated mass transport (such as a metro or suburban rail line). In recent years there have been proposals to construct a light rail system. In addition, a segregated bus lane has been planned along the centre of each of the eight principal transportation corridors (two of which currently carry passenger flows of up to 15,000 persons per hour in one direction). The Government's most recent initiatives are the Sky Train (two lines of electric trains in the Central Business District, the first of which is scheduled for completion in mid-1995), and an expressway, the Don Muang Tollway, that would expedite travel between downtown Bangkok and the international airport.

PLANNING ISSUES

In Thailand, as in many countries, the lack of a general plan to address urban growth has resulted in unintended consequences from the nation's implicit spatial policies. For example, Bangkok's sprawling growth has been encouraged by trade policies and development strategies: both import substitution and export promotion have strengthened Bangkok as the leading industrial centre and the only major port. In addition, agricultural pricing policies have driven large numbers of small rice farmers out of business; monetary and credit policies have had adverse impacts on the growth of small-scale enterprises; and freight rate policies and fuel pricing have also reinforced the primate status and the competitive advantage of Bangkok.

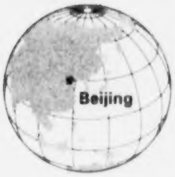
Beginning with the Greater Bangkok Plan 2000, which was prepared in conjunction with the Fourth National Development Plan, the Government advocated the promotion of a polycentric pattern of national urban growth. This was partly because there was then a close correlation between poverty areas on the periphery and insurgency areas, a fact that was recognized explicitly in the Fourth Plan. In the Fifth and Sixth Plans, the Government expressed a renewed commitment to reducing the dominance of Bangkok, largely as a means of promoting interregional equity.

The current strategy seeks to promote satellite towns in the Central Region, to develop the Eastern Seaboard region and to promote a number of cities on the periphery. This strategy not only takes advantage of natural decentralization forces within the Central Region, but also recognizes the importance of the private sector in locational decisions. However, it has encountered some difficulties. The Eastern Seaboard strategy, after being sidelined for many years, is only now getting under way. Moreover, the Government has encountered difficulties in attracting investment to peripheral areas, particularly in the north.

Although the Government has recently taken a number of steps to decrease Bangkok's dominance, it is still investing considerable sums in large infrastructure projects, such as construction of the expressway and expansion of the airport. So, too, some development priorities in the Sixth Plan—such as strongly promoting the tourist sector, which is the country's major source of foreign exchange—have powerful growth implications for Bangkok.

Among the mega-cities in developing countries, Bangkok provides one of the most successful examples of where the pace and pattern of metropolitan growth have been largely shaped by the actions of a dynamic private sector. This has fuelled the growth and performance of the metropolitan economy, although the cost in terms of external diseconomies (e.g., pollution, congestion, and inappropriate land uses) has been quite high. The Government has recognized that it has been relatively impotent in the past to determine the pattern of metropolitan development and has accepted that its role should be more modest in the future. Hence, the Sixth Plan has placed considerable emphasis on privatization of activities and services previously involving the direct participation of the public sector, with the future role of Government stressing much more the control and regulation of the negative externalities associated with private-sector development.

BEIJING
(China)



Beijing, the capital of the People's Republic of China, is an ancient city that dates back to the eleventh century B.C. Since its establishment in 1153 as the capital of the Jin dynasty, Beijing has been the national capital. The present metropolitan boundary covers a territory of approximately 17,900 square kilometres and consists of 10 districts and 9 annexed counties in peripheral areas. Based on urban functions, the metropolitan area can be divided into three concentric zones: first is the central zone, which coincides with the central city and makes up roughly 1 per cent of the total metropolitan area, and four districts within the central city, which include historic palaces, government buildings, commercial districts and old residential areas; the second zone, the near suburb, encompasses sites for new factories, schools, government buildings and workers' dormitories, and accounts for 8 per cent of the metropolitan area, and its outer fringe supplies the population of the central zone with agricultural produce; and the third zone, the far suburb, which consists of one district and nine annexed counties, makes up 91 per cent of the metropolitan area. The third zone functions as the economic base of the city, supplying coal, lumber, construction materials, vegetables and fruits, dairy products, water and some grain crops to the urban population in the other zones.

DEMOGRAPHIC CHARACTERISTICS

The population of the Beijing urban agglomeration grew from 3.9 million in 1950 to 12.4 million in 1995. The average annual rate of population growth declined from a high of 4.5 per cent in 1950-1965 to 1.1 per cent in 1965-1980. Since then, the rate of population growth has increased gradually, reaching 2.6 per cent in 1990-1995. Before 1960, the absence of contraception was the main factor responsible for population growth. In 1964, the Government introduced family planning programmes, which subsequently led to a gradual decline in natural increase.

As of 1961, in order to supply the cities of China with agricultural products, municipal administrations typically included large rural hinterlands. Consequently, many of the suburban districts of Beijing are rural, with low overall population density. In 1985, Beijing had an average population density of 4,039 and 549 inhabitants per square kilometre for the central city and metropolitan area, respectively. Densities varied considerably, however, ranging from as high as 50,000 inhabitants per square kilometre in central commercial areas to 100 inhabitants per square kilometre in some outlying rural suburbs.

ECONOMY

Until 1949, Beijing had very little industry. Since 1958, however, modern industries have been developed and various city plans have emphasized the productive role of the city. Major industries include metallurgy, electric power, chemical engineering, electronics, building materials, textiles, petrochemicals and machinery. The rapid growth of industry in Beijing has attracted tens of thousands of workers, technocrats and management personnel. As of 1988, about 60 per cent of its population were employed in various activities. Industry was the largest employer, with about 40 per cent of the population. The number of industrial employees grew from 100,000 in 1949 to 1.5 million in 1981. In 1979, manufacturing was the largest source of employment, accounting for over 43 per cent of the total employment of the city. In contrast to most other world capitals, the service sector in Beijing is relatively small and insufficient to meet the requirements of the city.

After 1949, the industrial policy of China emphasized the development of heavy industry as a basis for the industrialization of the country. In recent years, however, there has been a reversal of the trend: heavy industry, which was once dominant, is declining, while consumer industries are expanding.

INFRASTRUCTURE AND SOCIAL SERVICES

Since the 1950s, rapid population growth has encouraged the construction in Beijing of several large-scale housing projects. Some of them have primary and secondary schools, nurseries, hotels, recreational facilities and 4-5-storey apartment buildings. There are also many groups of single-family houses with adjoining parks, theatres and recreational centres. Many traditional single-family housing compounds have been subdivided to provide quarters for 3-4 families. Several factories on the outskirts of the city have built apartment buildings for workers which are easily accessible from their place of work.

Beijing, which is not located on a river, has always had big water supply problems. Most water supply is brought from a distance, with some shallow wells providing additional supply. Since 1949, the construction of two large reservoirs has greatly alleviated the water supply problem. Nevertheless, a shortage of water has constrained further growth of the city. In the peak season, about one quarter of city buildings have water supply problems. Furthermore, overexploitation of water has led to the subsidence of the groundwater tables.

As of 1988, the transportation system in Beijing included 2,233 kilometres of roads in the old city and 1,750 kilometres in the suburbs. Public motorized transport accounted for 37.5 per cent of journeys, bicycles for 59.5 per cent and official vehicles and taxis for the remaining 3 per cent. The main means of public transportation are buses and trolley-buses, while the underground railway, with only one line, has a limited capacity. Bus routes run throughout the walled city and the suburbs, while trolley routes run through the densely populated districts of the city. Bicycles are used for short-distance travel. The authorities regard travelling time as long and tiring and the number of vehicles as insufficient. The roads in Beijing are also considered to be too narrow and congested with some 3 million bicycles.

Beijing has a modern sewerage system with 600 miles of new pipes in the densely populated areas. Recent socio-economic development, a substantial rise in living standards and rapid population growth have increased the rate of generating solid waste. As of 1985, about 2 million tons of untreated sewage was being dumped daily into the river channel of the city, polluting the water, soil and agricultural products of the region. Industries account for about 60 per cent of this effluent.

PLANNING ISSUES

Since 1957, the Government has maintained a strict population registration policy to control in-migration to the city districts. Chinese citizens who wanted to migrate to cities had to obtain both a "removal certificate" from authorities in their place of current residence as well as an employment offer or school registration certificate from the urban authorities. Several disincentives had been employed in order to discourage migration to cities, including a food rationing system for urban non-agricultural workers, restrictions on urban firms hiring in rural areas and turning back unauthorized migrants at check-points on roads, as well at bus depots and railway terminals. During the late 1960s, significant resources were directed away from large-scale urban industrial development.

The Central Secretariat of the Communist Party of China has issued a directive specifying that the total population of Beijing must be limited to fewer than 10 million inhabitants by the year 2000. As of 1985, national policy prohibited the location of any new industrial project within Beijing. The few industries that must be located within the capital have to be constructed in the outer suburbs and within the new industrial satellite towns. Existing industrial enterprises are encouraged to increase production without expanding their labour force. Plants that cause pollution are to be gradually relocated within the suburban zones. Several proposals have been made to encourage industries to move out of the city districts, including a new land occupation tax, a new tax on industrial water, restrictions on bank loans for such industries, and strict pollution controls. The policy also aims at maintaining the present size of the industrial labour force until the year 2000.

BEIJING

In 1983, a master plan was proposed for Beijing which had the three main goals: *(a)* to restructure the ancient city so as to halve its current population density; *(b)* to plan the inner suburbs and disperse industry to the eastern suburbs; and *(c)* to develop the outer suburbs and create four new cities in those areas. Since 1979, the Government's birth control programme of "one child per family" has been implemented. According to authorities, 90 per cent of the objectives of the plan had been attained in China's urban areas.

As of 1989, Government guidelines indicate that urban construction and development of various undertakings should be linked to Beijing's role as the capital and the political and cultural centre of the country. Those guidelines also call for strict control of industrial development and urge that heavy industries, especially power and water-consuming industries, as well as pollution- and noise-causing factories not be allowed in Beijing. Instead, priority should be given to high-technology industries.

BEIRUT
(Lebanon)

Beirut, the capital of and the largest city in Lebanon, is located on the Mediterranean coast, at the foot of the Lebanon Mountains. It is built on two hills, al-Ashrafiyah in east Beirut and al-Musaytibah in west Beirut, which extend into the sea in a triangular peninsula. Once called the *Pearl of the Mediterranean*, Beirut is a city of ancient origins, mentioned in Egyptian records as early as the second millennium B.C. Its Canaanite name, *Be'erot* or *wells*, refers to the underground water-table used by the local population to date. However, the city did not gain prominence until it became a Roman colony in 14 B.C.

The importance of Beirut was established with the return of maritime commerce to the Mediterranean in the tenth century. As a crusader outpost, Beirut was engaged in flourishing trade with Genoa and other Italian cities, and became a chief port of call for spice merchants from Venice. Declining in commercial importance after it came under Ottoman rule in 1516, by the seventeenth century, the city once again became an exporter of Lebanese silk to Europe, especially to France and Italy. The Industrial Revolution in Europe spurred the growth of modern Beirut as factory-produced goods from the West began to permeate the city markets. The introduction of printing presses stimulated the growth of the publishing industry, in Arabic, French and English.

Beirut is the chief port of Lebanon; its seaport and airport, together with favourable economic policies that encouraged foreign investment, combined to make the city an established banking centre for Arab wealth between 1952 and 1975. A long-time centre of cultural, economic, intellectual and social life in the Arab Middle East, Beirut's character has undergone a dramatic change since the 1970s, as a result of social and political turmoil in the country. Beirut is no longer the centre of tourism that it once was; indeed, many of its businesses and residents relocated because of the fighting and the lack of adequate basic services, such as water and electricity. However, the city is currently making efforts to overcome its war period and is emphasizing reconstruction and rebirth as it approaches the year 2000.

DEMOGRAPHIC CHARACTERISTICS

By 1848, the population of Beirut was approximately 15,000. Swelled by the influx of Christian refugees escaping civil war in the mountains and a massacre in 1860, by the turn of the century, Beirut had become a city of 120,000 inhabitants. The population is estimated to have increased tenfold between the 1930s and the 1970s.

According to a sample survey undertaken in 1970, the city of Beirut had a population of 474,870, while its urban agglomeration was 938,940. Torn by civil wars and Israeli attacks, Lebanon has not conducted an official population census for decades, and there are no plans for a census to be held in the near future. The population of Beirut was estimated at 1.5 million in 1991, of which roughly one third had been displaced by civil wars in the country.

The resident population of Beirut is more or less evenly divided between Christians and Muslims, with the great majority of both groups being ethnically Arab (including Palestinian refugees, Syrian residents and others). Ethnic minorities include Christian Armenians and Muslim Kurds. East Beirut is predominantly Christian, west Beirut is overwhelmingly Muslim, whereas a small number of mixed neighbourhoods are cosmopolitan in character.

ECONOMY

Between 1952 and 1975, the economy of Beirut flourished despite the political instability in the country. Its free economic and foreign exchange system, a solid gold-backed currency, banking secrecy laws, favourable interest rates and its airport and seaport, combined to make the city an established banking centre for Arab wealth, which had been primarily invested in construction, commerce, publishing and food processing, textile and shoe industries. Beirut became the Middle East headquarters for many international banking and business firms. Moreover, the free zone of Beirut port served as a leading distribution centre for imports and exports in the region. Beirut also became a centre for Arab Middle Eastern and Western tourism.

With many of its residents and businesses having fled the devastation caused by social and political unrest, civil war and foreign attacks, Beirut lost its position as the centre of the Arab Middle East. As life in Beirut slowly begins to return to normalcy after 17 years of civil war and several years of a stalemated peace, business in the city is making a slow comeback: banks and offices are putting up new signs, hotels are being renovated, and boutiques, bars, brasseries and restaurants are opening their doors. The tourism industry is confident that strategic location of Beirut and the unique combination of business and recreational possibilities will bring visitors back to the city; it is counting on Lebanese expatriates and Arab visitors to be at the forefront of a revitalized tourism industry.

INFRASTRUCTURE AND SOCIAL SERVICES

Beirut is a city that has been greatly affected by war. The downtown area of central Beirut, the old city, had been almost totally destroyed and remains in ruins, a vacant belt surrounded by warring east and west Beirut. As a result, all businesses have moved out of the area to the Christian and Muslim parts of the city; residents also fled the area. Indeed, by 1980, no areas of Beirut were purely residential.

In 1985, a housing ministry survey reported that the worst damage caused by the war was in Beirut, where some 144,000 homes were in need of repair or complete reconstruction. Areas of Beirut have experienced major power failures and shortages since 1975, especially during the winter months. Indeed, there was little electricity available in the city during most of 1990; by early 1991, electricity was available on a limited basis of approximately six hours a day. Thefts and loss of revenue resulting from unpaid utility bills had compounded the problem.

The city infrastructure suffered tremendous losses as a result of the war. Some of the repair works have already begun; for example, the Beirut water-supply system has undergone major repairs and 62 water tanks had been installed to serve some 400,000 residents in the suburbs of Beirut. Electric utility and sanitation services are still in need of repair; also requiring urgent attention are city streets which need storm-water drains and street lighting. The rehabilitation of Beirut will also include the construction of hospitals, schools and university buildings, the renovation of government buildings and the development of new access roads into the city.

The port of Beirut also suffered great losses because of the war; indeed, it became a battleground and was almost totally destroyed. Rival ports run by militia groups had been established along the coast, causing further reduction in traffic at the Beirut port. The Government's efforts to close illegal ports at the end of the civil war was the first step in the restoration of the port of Beirut as the centre of Lebanon's international trade. The physical restoration of the port calls for rehabilitation of the existing port, completion of a breakwater and the fourth basin of the port, the creation of a new container area, and the construction of an industrial free zone, a fifth basin and a major container terminal. There are also plans to expand the Beirut international airport, which began its normal operation in mid-1991 after periodic closures because of large-scale destruction.

Demolition of buildings damaged by the war has already begun, marking the start of the reconstruction of downtown Beirut. The Council for Development and Reconstruction is in charge of coordinating the clean-up of the city. The massive work, which will strive for harmony between the old and the new, will involve marine reclamation on the central north shore of the city that had become a dumping ground for solid waste (450,000 square metres of which are to be turned into marine walks and parks); infrastructure and utility services; and the construction and restoration of the city centre, with plans to restore some 15 per cent of existing buildings. The number of construction permits issued in Beirut in the second quarter of 1993 rose by almost 95 per cent over the previous quarter.

An international competition has been opened for design ideas for the post-war reconstruction of the souk area of the city centre. It is hoped that the new design will harmonize with both the traditional character of the city souks and the new commercial, residential and recreational areas of the city.

PLANNING ISSUES

The Government of Lebanon is concerned with the inappropriate concentration of population in the Greater Beirut area and in southern Lebanon. However, political and social unrest in the country have precluded the implementation of specific development plans to alleviate severe overcrowding in Beirut. High priority is given to basic relief needs and reconstruction and rehabilitation projects.

An ambitious 10-year reconstruction programme for Lebanon, "Horizon 2000", focuses on seven important areas, including the city, telecommunications, water and sewers, electricity generation and transmission, transportation, schools and hospitals, and reform of governmental institutions. It is hoped that the project, which has been delayed because of financing and changes to the original concept of the plan, will be a unifying symbol of the new Lebanon, a Lebanon which will once again play an important cultural, economic and social role in the Middle East.

BERLIN
(Germany)

In 1989, Berlin was reinstated as the capital of Germany after the reunification of the former Federal Republic of Germany and the former German Federal Republic. Founded in the early thirteenth century, the city was the capital of Brandenburg and from 1701, the capital of the kingdom of Prussia. As a result of its privileged position as the main transportation intersection in central Prussia, the city grew to be an industrial and commercial centre during the eighteenth century.

During the second half of the nineteenth century, Berlin's development intensified, especially after the city was proclaimed the capital of the German Empire in 1871. In 1945, as a result of the Second World War, the city was divided into four occupational zones, and in 1949, it was partitioned into East and West Berlin. West Berlin was part of the Federal Republic of Germany, while East Berlin became the capital of the German Federal Republic. A wall dividing between East Berlin and West Berlin was built in 1961 to prevent movements between the two capitals. That wall was demolished in 1989, when the two German States reunited to form one sovereign State.

DEMOGRAPHIC CHARACTERISTICS

Berlin experienced steady population growth between 1830 and the Second World War. The population of the city doubled between 1830 and 1860, and increased from 500,000 in 1852 to 2 million in 1905 and to 4.4 million in 1939. The demographic expansion of the city was due mainly to in-migration from rural areas, especially from the eastern provinces of the country. Berlin reached the apex of its growth in 1939, just before the commencement of the Second World War.

The partition of the city after the Second World War greatly affected its demographic characteristics. After partition, East Berlin first experienced a decrease in its population size and then stabilization; from about 1.6 million in 1939, the population decreased to 1.17 million in 1946. By 1971, East Berlin had 1.09 million population; it grew slowly to 1.16 million in 1981 and to 1.28 million in 1989. Most of its population growth resulted from the inflow of migrants from other parts of East Germany.

The demographic situation was somewhat different in West Berlin. Population losses due to war brought the population of West Berlin down from 2.7 million in 1939 to 2 million in 1945. Then the population resumed its growth at a slow pace until the mid-1950s, reaching about 2.2 million by 1960. Population declined during the 1960s and the 1970s, and the decline accelerated after 1966. In 1970, West Berlin had a population of 2.12 million, and the number fell further, to 1.88 million in 1985. The proportion of the population of the Federal Republic of Germany that lived in West Berlin also decreased steadily. Although a depopulation process in favour of smaller urban centres was affecting all large cities in the former Federal Republic of Germany, the phenomenon was much more apparent in West Berlin.

Considering East and West Berlin together, the positive rate of growth in East Berlin more than balanced the depopulation process in West Berlin, resulting in a slow increase for the whole city. Its population grew from 3.25 million in 1980 to 3.29 million in 1990. The population is projected to continue to grow very slowly—by less than 0.2 per cent per year—into the next century.

ECONOMY

At the beginning of the twentieth century, Berlin became an important industrial centre in Germany, second only to the Ruhr. After the post-war partition of the city, service enterprises left West Berlin and the city relied mainly on industry. Its economy was based on chemicals, electronic equipment, machinery, pharmaceutical products and publishing, followed by clothing, food and luxury items. West Berlin was also the centre for East-West trade and finance.

In 1981, the West Berlin Senate launched a policy aimed at strengthening the industrial structure of the city, increasing competitiveness of the operating firms, and fostering new companies. The primary instrument for this policy was the Berlin Promotion Law, politically supported and financed mainly by the Federal Government. The law lowered taxes, provided favourable credit terms, and offered other advantages to firms locating in West Berlin. It was accompanied by a structural policy based on a regional programme that included an innovation fund and a research and training centre. However, this programme could not stop the trend that had been observed since the 1960s, in which changes in the economic environment had led to a steep decline in factories and manufacturing jobs. Indeed, between 1960 and 1984, 48.5 per cent of employment in the manufacturing sector was lost. West Berlin also lost much of its influence as a world financial centre after the Second World War. Before reunification of the two States, the city was headquarters of three banks and the seat of numerous branches of domestic and foreign banks. The chemical industry was the largest producer in the heavy industrial group in West Berlin.

East Berlin was the financial, commercial and industrial centre of the German Democratic Republic and an important transit hub for East-West trade. Its economy was based on apparel, chemicals, food products and electronic equipment; its most important industries were electrical engineering and electronics, metals and automobile production. As a trade and transit hub situated near the fertile northern lowlands, East Berlin was a natural site for food processing and distribution. Other light industries include textiles, printing and publishing, beverages and the manufacture of precision equipment. The economy of the city was strong both because of the presence of the Government of the German Democratic Republic and because of its balanced mix of heavy and light manufacturing industries.

INFRASTRUCTURE AND SOCIAL SERVICES

East Berlin had a better quality health care, housing, education and transportation than many other industrialized cities. However, housing construction and the rehabilitation of older, inadequate housing retarded the population growth of East Berlin, causing shortage of housing. Generally, the overall plan for development of the city was effective. A system for burning refuse to produce energy had been enacted, and strict air pollution controls were enforced. Urban policy was designed to protect natural surroundings and maintain the balance between the needs of an industrial centre and the desire for a high quality of life. Some of the poorer areas of the former East Berlin lack infrastructure. Many buildings were constructed with poor quality materials and are likely to degenerate rapidly into slums.

In West Berlin, about one third of the buildings were destroyed or rendered uninhabitable during the Second World War. A large proportion of the housing stock was rebuilt after the war. However, the city continues to have a shortage of low-income housing. Medical facilities in West Berlin were ample, and educational facilities were well funded.

After reunification, the city faced vast problems of restructuring. The two autonomous infrastructure systems existing in the two Berlins had to be consolidated. The centre of the city had to be restructured, and its vast empty spaces filled. The wall left an impressive vacant swath through the city, which is now a no man's land. Many adjacent plots have remained undeveloped and others are occupied by ruins or shacks. The two urban centres that had developed in the divided city during the past half century must now be linked in a convenient and functional way.

PLANNING ISSUES

Before reunification, West Berlin had a policy of special incentives to encourage younger West Germans to move to West Berlin. The programme, funded largely by the Government of the former Federal Republic of Germany, provided special credits for businesses and industries, as well as allowances for workers. City and national officials aimed to attract a younger and productive population to balance the high proportion of elderly residents of the city.

A flood of investment and construction projects have been forthcoming for a unified Berlin. A new zoning plan for the entire city seeks to: *(a)* focus on housing construction in inner areas through better use of land by filling in vacant land and building higher density housing, especially in areas close to public transport lines; *(b)* designate new residential areas; *(c)* preserve the green areas of the city, including the garden belt surrounding the city; *(d)* provide open spaces by designating new large green areas, especially close to large housing estates and future urban expansion areas; *(e)* ensure that urban planning safeguards sustainable coexistence, with land supporting mixed uses, e.g., crafts and industry, as well as recreation; and *(f)* locate the most important development areas, the new focal points of urban development, in the transitional areas lacking infrastructure on the edge of the inner city and on the outer city border.

The new plan, which will be an effort towards ecologically oriented urban planning, requires that the zoning plan be comprehensive for the whole city and take into account multiple functions. The orientation of the zoning plan is therefore to maintain and strengthen the economy of Berlin and to improve the quality of life for its inhabitants. It pursues these objectives by using available space sparingly and by carefully balancing competing claims for land use.

BOGOTA
(Colombia)

Santa Fé
de Bogotá

Bogotá is the largest city and manufacturing centre of Colombia. The city, which was founded in 1538 by a Spanish military leader, served as capital of the Spanish colony called New Granada and became the capital of Colombia in 1821. Bogotá is not a primate city, but rather is a part of a decentralized urban system that includes other Colombian cities, such as Medellín, Cali and Barranquilla. The city covers an urbanized area of 186 square kilometres on a high and level plain in the central region of Colombia. Except for the mountains in the east, there are few physical barriers to restrain its growth. The city has become increasingly decentralized, with the central areas housing successively smaller proportions of the population. The spatial growth of the city has kept pace with its population growth, resulting in a relatively constant average population density. The density of population is lower, however, on the outskirts of the city and in the central business district.

DEMOGRAPHIC CHARACTERISTICS

The urban agglomeration of Bogotá grew from a population of 676,000 in 1950 to 5.6 million in 1995. The annual rate of population growth averaged 6.6 per cent in the 1950s, gradually declining to 3.2 per cent in 1975-1990 and 2.9 per cent during 1990-1995. The current rate of growth is 2.4 per cent per annum, with smaller towns in the metropolitan area growing more rapidly than the urban core. Migration, especially for employment, has played an important role in the growth of Bogotá. For example, the proportion of its non-native population was 51 per cent in 1964 and 49 per cent in 1973. The level of infant mortality in Bogotá is 19 per 1,000 live births as of 1988.

Bogotá has a high proportion of women and youth. The city has about 8 per cent more females than males, which may partly be explained by the fact that many women come to the city to work as domestic servants. Family planning programmes in operation since the 1960s have led to declining family size in Bogotá. Other factors which have been responsible for this decline are increased literacy among women, improved access to education and family planning methods, and the increased rate of female labour force participation. The 1976 World Fertility Survey found that completed family size in Bogotá was about three children. Despite the decline in fertility, the population of Bogotá is expected to grow owing to demographic inertia, as the large numbers of youth born during past high-fertility years enter the child-bearing ages.

ECONOMY

Bogotá is the economic heart of the country, generating about 25 per cent of the economic growth of the country. It has a diversified industrial structure. The main industries of the city produce food products, cement, textiles and chemicals. In 1985, about 94.6 per cent of the 1.6 million persons in the economically active population were employed. In 1980, services accounted for 42.7 per cent of employment, followed by the industrial sector (including mining) at 13 per cent and public administration at 9.5 per cent. Food processing is the most important industry of Bogotá, employing about 17 per cent of the its labour force employed in manufacturing in 1980. The chemical industry is the next most important, with 12.6 per cent, followed by the production of transportation equipment, with about 11 per cent. In 1970, per capita income in Colombia was about 60 per cent higher than the national average. However, the distribution of wealth in Bogotá is highly skewed. In 1978, the top 10 per cent of the population received 37 per cent of total income, whereas the lower 50 per cent received 19 per cent. The large proportion of youth in the population has lowered the overall labour force participation rate and increased the number of dependants per worker. Nevertheless, because of increasing participation in the labour force of women and youth, the labour force of Bogotá is expected to grow rapidly.

INFRASTRUCTURE AND SOCIAL SERVICES

The highly centralized form of government of Bogotá was recently changed by dividing the city into

20 administrative units, each with its own mayor and a council elected by citizens of the locality. The city government allocates funds to each administrative unit, which may invest in community development and local infrastructure. This new decentralized system brings government closer to the people and encourages community participation. A complementary strategy involves integrating private-sector investments in infrastructure with public investments. The transfer of public services and functions to private agencies is also encouraged.

Bogotá has a relatively young population, which places a heavy burden on the Government to supply adequate health, education and other services. Nevertheless, the educational levels of both males and females in Bogotá have improved significantly. Enrolment rates in primary, secondary and higher education increased from 77 per cent, 12 per cent and 2 per cent, respectively, in 1960, to 100 per cent, 39 per cent and 9 per cent in 1980. As of 1984, the illiteracy rate in Bogotá was about 10 per cent. Most secondary students in the city attend private schools.

Rapid population growth in Bogotá has contributed to a persistent housing shortage, with an estimated deficit of 210,000 housing units in 1980. To fill the gap, a large proportion of low-income housing in the city is self-built. The poor and recent migrants tend to rent houses that are generally shared by several families. Of the estimated 1 million dwelling units in the city, about 72 per cent are single-family homes and 27 per cent are apartments. Traffic congestion is another serious problem in Bogotá. About 90 per cent of the city residents travel by public transportation. In 1980, there were some 3,858 minibuses and 7,119 buses in Bogotá. As of 1987, about 5 million trips per day were made by public transportation. Travel in the city is slow, with medium-range trips (5-10 kilometres) taking from one to two hours. Each day, about 200,000 people commute to the city centre for work.

Like housing, services such as waste collection have failed to keep pace with the population growth of the city. Uncollected industrial and domestic waste poses a serious health hazard. In 1984, city authorities declared a "sanitary emergency" situation. As of 1984, Bogotá produced about 4,450 tons of garbage daily, with some surveys putting the figure at nearly twice that amount. However, the District Public Services Corporation (EDIS) collected only about 2,100 tons of refuse a day. Each day, therefore, about 2,000 tons of waste accumulated in the streets and industrial lots of Bogotá. While sanitary engineers have estimated that at least 300 garbage trucks are required to provide the city with adequate waste collection service, EDIS has had fewer than 100 collection vehicles in service. The health authorities have noted that, in addition to contaminating the soil and water supply, the solid waste problem of the city is linked to respiratory, gastro-intestinal and dermatological diseases.

PLANNING ISSUES

Although concern about urban planning was expressed as long ago as 1932, the policy for many years was to discourage population growth and contain physical expansion by failing to provide public services, such as water and electricity. This strategy failed completely, however, as thousands of people moved illegally into large areas of "pirate" settlement to the south and south-west of the city. For a time, official policy varied between ignoring those subdivisions and attempting to eradicate them. During the 1970s and 1980s, however, it became increasingly accepted by policy makers that those unregulated settlements offered an effective solution to the need for low-cost housing. In consequence, there has been a trend towards the legalization of pirate settlements. Efforts have also been made to provide them with basic infrastructure and amenities.

BOMBAY
(India)

The major industrial and financial centre in and the most populous urban agglomeration of India, Bombay traces its origins to a small fortified settlement of the East India Company, which grew hardly at all in the first decades after it was ceded to the British crown in 1661. Even by the late eighteenth century, Bombay was primarily a marine supply point which, unlike Calcutta and Madras, had few linkages with its hinterland. During the nineteenth century, several economic factors spurred the growth of Bombay, including the development of foreign shipping services to exploit its location on the Arabian Sea, closer than Calcutta to Europe; the extension of the railway line to the cotton-growing areas in the hinterland of Bombay in the 1860s; and the boosting of world cotton prices as a result of shortages caused by the American Civil War. The opening of the Suez Canal in 1869 also increased the trade activities of Bombay.

Beginning in the mid-nineteenth century, the port functions of Bombay were rapidly transformed from exporting to importing. The import trade stimulated the development of import-substituting manufacturing, especially in cotton textiles, although the manufacturing base remained narrow and rather specialized.

DEMOGRAPHIC CHARACTERISTICS

From a population of about 10,000 shortly after its founding in 1661, Bombay reached 644,400 in 1872, the year of first census of India. The growth of Bombay was very erratic during the past quarter of the nineteenth century, with periodic famine in the hinterland driving rural residents into the city, and periodic epidemics forcing large numbers of Bombay residents to seek shelter in the countryside. Bombay City grew moderately fast, by 2.1 per cent per annum, during 1901-1921, reaching 1.2 million in 1921. Bombay City recorded a negative rate of population growth during the 1921-1931 census decade–an artificial result related to the effects of the non-cooperation movement on census enumeration. As expected, the population growth rate was higher during 1931-1941, at 2.5 per cent per annum. The 1941-1951 census decade was the period of peak population growth in Bombay. Because of the influx of refugees following partition, Bombay City grew by 4.6 per cent per annum, reaching 2.3 million in 1951, whereas Greater Bombay grew by 5.2 per cent per annum, reaching 3.0 million.

The rate of population growth decelerated, however, during 1951-1961. Bombay City grew at an average annual rate of 1.7 per cent per annum, reaching 2.8 million in 1961, whereas Greater Bombay grew by 3.3 per cent per annum, reaching 4.2 million. In the following two decades, the average annual rate of population growth in Bombay City continued to decline: from 1.0 per cent per annum during 1961-1971 to 0.6 per cent per annum during 1971-1981. However, its population grew by 3.7 per cent per annum during 1961-1971 and by 3.2 per cent per annum during 1971-1981, reaching 8.2 million in 1981. The Bombay Metropolitan Region consists of the main city of Bombay and the surrounding cities of New Bombay, Thane and Kalyan, as well as 15 smaller towns and 1,000 villages spread over 4,355 square kilometres. The 1990 United Nations estimate for the urban agglomeration of Bombay was 12.2 million, making it the sixth largest city in the world.

In recent years, the rate of natural increase in Greater Bombay declined from about 19 per 1,000 in 1979 to 15 per 1,000 in 1983; the crude birth rate declined from 29.2 per 1,000 (1979) to 23.4 per 1,000 (1983), whereas the crude death rate declined from 10.3 to 8.2 per 1,000. According to registration data, the crude death rate in Greater Bombay was 7.6 per 1,000 in 1985, whereas the crude birth rate was 22.2 per 1,000. The 1991 census found that the sex ratio in Bombay was 818 females per 1,000 males, and the city has the highest literacy rate in the state, 82.5 per cent.

ECONOMY

Since the 1940s, the manufacturing sector in Bombay has become more diversified, with the expansion in basic metals and engineering dating back

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from the Second World War. The engineering industry is mixed, with a wide range of light and medium engineering products, compared with heavy engineering found in Calcutta. Thus, economy of Bombay is fairly resistant to national recessions. Other manufacturing activities that have developed in Bombay include oil refining and petrochemicals, pharmaceuticals, printing and publishing, food manufacturing, and a broad range of "other manufacturing" industries (e.g., tobacco, leather, furniture and timber products, paper, ceramics and jewellery). In addition, the port of Bombay has been important not only as a direct employer, but also as the force behind the emergence of a wide range of service and financial activities. These, in turn, have created the business agglomeration economies and non-manual labour pools that have made Bombay a very attractive location for public- and private-sector offices.

Bombay had a period of strong growth in the number of factories between 1961 and 1981, but the corresponding growth in employment was much slower. Industrial employment was stagnant in the Bombay Metropolitan Region during the 1970s, and it declined in the 1980s. Since 1981, the increase in the number of factories in Bombay has been nominal, both as a result of decentralization policies and because of general sluggishness in industrial production in India. On the other hand, non-factory sector employment has grown rapidly. Small industrial units employing 10 or fewer workers may operate outside the restrictive policies of the Factory Act and are responsible for an increasing share of jobs. By 1987, the cotton textile industry had lost its prominence as largest employer in Bombay; it accounted for 14.9 per cent of total employment, just behind the chemical industry with 15.5 per cent.

INFRASTRUCTURE AND SOCIAL SERVICES

Bombay faces a severe housing crisis and the existing housing stock continues to deteriorate. Current demand for housing is calculated at 60,000 units per annum, while new supply is barely 20,000 units. Many people live in buildings that are in danger of collapse, but rent control laws have made them reluctant to relinquish their apartments. Bombay is considered the most congested of any city in India. The 1981 census estimated that 2.8 million people lived in slums or near-slums. By 1993, an estimated 55 per cent of the city population lived in slums, and a further 25 per cent in squalid and dilapidated chawls where conditions may be even worse than in the slums.

Efforts to alleviate the housing situation have taken several forms. In the first two decades after independence, the official policy was slum clearance, which involved resettling residents in housing developments. This scheme received lukewarm support, partly because the new housing was too far from employment centres. The Slum Improvement Programme, begun in 1972, was designed to improve living conditions in existing slum areas by providing basic amenities, e.g., potable water, drains, roads, lavatories and street lights. Conditions have improved for some, but the scale of the programme has been quite limited and funds have been insufficient. The most recent effort, introduced in 1985-1986, is the Slum Upgradation Programme, which aims to grant slum dwellers tenurial rights to the land they are living on in exchange for fees to cover the cost of infrastructural services. It also provides loans to slum households to enable them to make permanent improvements on their dwellings. In spite of all these programmes, with the rapid increase in population, the slums in Bombay continue to grow. Slums have encroached on private and public lands and overwhelmed all attempts at providing services.

The water supply situation in Bombay is critical, with the level of supply so much below demand that water use is restricted to between two and eight hours per day, depending on location. Moreover, the supply situation sometimes reaches emergency proportions when the monsoon fails (e.g., in 1966 and in 1972). Although the sewerage system in Bombay is inadequate and outdated, the entire city area, although not the suburbs, has access to a sewerage system.

Bombay suffers from serious air pollution, both from noxious industries (e.g., textile mills, petrochemical plants, gas works) and from automobile emissions. Estimates in 1993 attributed 60 per cent of air pollution to vehicle exhaust and 30 per cent to industrial emissions. Households that use wood, coal and kerosene for fuel also contribute to air pollution. Bombay is one of the noisiest cities in the world. At major traffic intersections, noise levels reach are between 77 and 88 decibels, well above the tolerable level of 65 decibels.

More than 2 million of Bombay residents have no sanitary facilities, and most sewage collected in Bombay is discharged untreated or partially treated into creeks or coastal waters. Water pollution has become a major health hazard for Bombay citizens. To date, the Bombay Metropolitan Region Development Authority (BMRDA) has allocated only a small proportion of total investment for air and water pollution control, and this has been mainly for surveys. The industrial location policies of the State have been motivated in part by the desire to reduce industrial pollution and attempts have been made to relocate non-conforming industries outside the island city, but industrial pollution remains a serious problem.

Bombay has a substantial public transport system, consisting of suburban rail services operated by the western and central divisions of Indian Railways and a municipal bus service operated by the Bombay Electrical Supply and Transport Undertaking. The bus system carries an average of 4.8 million passengers per day, and rail passenger trips number nearly 7.5 million. Car ownership rates have been low in Bombay, but the number of vehicles increased by more than 7 per cent per annum between 1971 and 1991. By 1993 there were 450,000 automobiles on Bombay streets, including 35,000 taxis. Congestion in the metropolitan area is exacerbated by the geography of the island city and by the spatial distribution of jobs and residences. The dominant traffic flow and main routes run from north to south, and about 20 per cent of the jobs in the island city are held by residents of the suburbs or of areas outside Greater Bombay. The few north-south road arteries are choked with traffic. Planners have for years proposed a new subway/surface rail line and a freeway system up both sides of the island and linked by cross-connectors, but those recommendations have not been adopted because of cost constraints.

PLANNING ISSUES

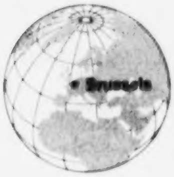
Beginning in the years immediately after independence, successive committees and study groups diagnosed most of the ills in Bombay as a product of excessive spatial concentration in the southern part of Bombay Island and proposed various decentralization strategies to combat the problem. One of the policy instruments common to all of the early strategies was industrial dispersal.

There are several reasons for preoccupation with the issue of planned decentralization. One is the increasing congestion. Another is the cost of building certain types of urban infrastructure (e.g., a water supply system). It is much cheaper to build outside the central city than in the urban core. Most importantly, housing problem in Bombay has reached crisis proportions. Owing to shortage of residential land in the island city, the presence of rent control, the vast hutment areas, and the dilapidation of much of the housing stock, it will be difficult to improve the housing situation in the central core. A World Bank-funded project to provide sites and services will only begin to alleviate housing crisis in Bombay.

Plans to build new housing in peripheral areas have been suggested, but a decentralized housing solution implies the decentralization of jobs and services as well, hence a poly-centric metropolitan structure. This has been the goal of Bombay planners for many years, yet it remains elusive. In spite of efforts to move part of the office sector to peripheral areas such as New Bombay or Bandra-Kurla, the island city remains a highly attractive location.

New Bombay, the planned twin city across the harbour, has not taken off on the scale anticipated in the late 1960s, but it remains an integral part of the decentralization strategy. The fact that the state government decided not to shift a large number of government jobs to the twin city site, the reclamation of the sea in the back bay area as an alternate site for the office sector, and the limited financial scope of its development authority are some of the factors that contributed to the slower-than-planned development. On the other hand, the decision of the Government of India in 1983 (after many years of discussion) to set up a deep water port at Nava Sheva in the southern part of New Bombay may well contribute in the long run to the development of the entire area. Similarly, the development of the Bandra-Kurla complex as an alternative location for part of the office sector and the development of the Kalyan complex as a major industrial pole remain major planning targets.

BRUSSELS
(Belgium)



Brussels, the capital of Belgium, grew from a village founded by the Franks in the seventh century on an island in the Senne River. By the fourteenth century, it was the chief town of Brabant, and in 1530, it became the capital of the Netherlands under the Hapsburgs. In 1830, after centuries of domination by powerful neighbours—Austrians, French and Dutch—Brussels was the centre of the Belgian revolution. It was proclaimed the capital of Belgium in 1831.

Currently, Brussels is the largest urban agglomeration in the country, an important financial, commercial, political and administrative centre. It is the site of the headquarters of the executive branch (Commission) of the European Economic Community, as well as the location of other international organizations. Brussels is a bilingual city (French and Dutch) and, although most of its residents speak French, it is located in the Flemish part of Belgium. In 1989, the city and its metropolitan area, which consists of 19 municipalities, were constituted as an autonomous region, known as the Region of Brussels Capital. This capital region forms a third Belgian region, in addition to the Flemish and Walloon regions.

DEMOGRAPHIC CHARACTERISTICS

At the beginning of the eighteenth century, the population of the area that is at present the Brussels region was concentrated mainly in the "Pentagon", the historic centre of Brussels, which had 40,000 of the 50,000 inhabitants of the region. A century later, the population of the region had increased to 90,000, four fifths of which lived in the Pentagon. The walls surrounding the city were removed after 1830, allowing the capital to expand and merge with the surrounding villages and municipalities.

Population growth was very high during the nineteenth century, especially in the suburbs, where some municipalities grew at an annual rate of 9 per cent. By 1900, more than 500,000 people lived in the region, about 30 per cent in the central city and 60 per cent in the first ring of suburbs. Most population growth came from rural-urban migration, but immigrants also came from other countries, especially during the first half of the twentieth century.

Migration from rural areas intensified during the 1950s, and foreign immigration increased in the 1960s. In 1961, Brussels region had a population of 1 million, while inner Brussels had 170,489. Slower growth and suburbanization resulted in a decline in inner Brussels to 161,080 in 1970, while the Brussels region increased slightly, to 1.1 million. The counterurbanization trend continued in Belgium in the 1970s and early 1980s, when both inner Brussels and the Brussels region lost population. The urban agglomeration of Brussels grew, however, as people moved to the suburbs further from the centre of the city. The population of the urban agglomeration increased from 1.1 million in 1970 to 1.2 million in 1980; it declined slightly, back to 1.1 million, by 1990. Brussels had a population of 1.1 million as of 1995. The population of the Brussels region is expected to continue to fall, not only because of lower fertility but also because of the continuing trend towards suburbanization.

The proportion of foreign-born inhabitants of Brussels has increased markedly during the past two decades, from 16 per cent in 1970 to 28 per cent in 1990. This growth is the result of differentials in both fertility and migration between native Belgians and foreigners. Between 1983 and 1990, the Belgian population in Brussels decreased at an average annual rate of more than 1 per cent while the foreign-born population increased at a rate of 2.5 per cent per annum. Natural increase among Belgians has been negative. In 1981, the crude death rate for native Belgians in Brussels was 13.2 per 1,000, about 15 per cent higher than the national rate. The higher death rate is an indication of the greater proportion of older residents in Brussels than in the rest of the country.

ECONOMY

Brussels is the national administrative capital, the seat of the EEC Commission and the administrative centre for the European Coal and Steel Community, the European Atomic Energy Community and the North Atlantic Treaty Organization. Brussels is also the headquarters of major national and international corporations and eight of the nine largest Belgian banks. It is one of the largest financial and commercial centres in Western Europe, the site of international and foreign financial and insurance institutions, as well as an important stock exchange.

Brussels has benefited economically from its status as the centre for major international organizations, but the economy of the city is not limited to commercial and service activities. Its industries include mining, food processing, manufacturing of textiles, chemical products, machinery, watches and electrical equipment. The metro area is developing new industry based on electronics and high-technology research and production.

The economy declined in the late 1970s and early 1980s, partly as a result of the reduction in foreign investment, but also because of the high wages in the city and the diminishing competitiveness. The Government introduced social austerity measures and provided incentives to encourage industry to become more productive. The labour force is employed primarily in government administration and services. In 1980 the unemployment rate in Brussels was 7.1 per cent.

INFRASTRUCTURE AND SOCIAL SERVICES

Brussels is governed by the Region of Brussels Capital, which has broad administrative responsibilities, including regional land planning, public works, transportation, foreign trade, employment, environment, scientific research, fire services and sanitation services. The administration relies on specialized bodies to implement its policy in the areas of services and infrastructure: the *Société des transport intercommunaux* for transportation; the *Société régionale d'investissement* to finance existing or new business; the *Société de logement régional* to promote low-cost housing; the *Institut Bruxellois de gestion de l'environnement* to manage the environment; the *Office régional de l'emploi* to manage employment matters and unemployment training; the *Société régionalisée de port de Bruxelles* for management of its seaport; and the *Agence Bruxelles-propreté* for collection of refuse and public cleaning services.

The city health care system has a favourable physician-to-population ratio, and the Belgian Government provides generous social benefits to its citizens. The social security system covers a full range of needs, including unemployment, pensions, sickness and disability. Moreover, Brussels has the most comprehensive medical facilities in the country.

Rising rents and shortage of affordable housing have made it difficult for low-income foreign migrant families to find places to live. In response, the *Ligue des familles*, an organization that strives to improve the integration of immigrant families, has created a Housing Fund to help families find housing or improve their housing conditions. Supported by the European Commission, the Fund has organized a model project that has helped families buy homes. In 1992, 2,500 families in Brussels were registered with the Housing Fund.

PLANNING ISSUES

The Brussels Capital Region pursues the objective of maintaining a balance between the international functions of the city and traditional urban functions. The main policy of the regional government is to ensure that Brussels remains a viable city where people want to live. This is accomplished through legislative action in regard to town planning and land use, environmental licensing, local government, economic expansion and other issues that affect the quality of life.

Until recently, the only urban plan for Brussels was the Sector Plan, which was implemented in the late 1970s and never updated. In 1993 the new Government drew up a development plan that aims at providing an overview of how the city should develop. The new plan covers all urban activities, including business. It uses the principle of cross-development, which enables various urban elements to be coordinated in a horizontal manner. The plan was scheduled for review in 1993 by the Regional Development Council; the review process includes public hearings and input from local authorities and concerned citizens.

The objectives of the plan are to strengthen the attractiveness of Brussels as a place to live; to encourage economic development and maintain the diversity of the economy; to preserve the form of the city; to promote viable subcentres to protect both natural open spaces and the architectural heritage; to ensure coherence between the overall transport layout and the urban structure; and to develop the "urban qualities" that make the city an attractive place to live.

BUCHAREST
(Romania)

Bucharest is the capital and the chief manufacturing and commercial centre of Romania. The city is located on the banks of Dimbovita, a minor northern tributary of the Danube. Historical evidence indicates the existence of a town at Bucharest as early as 1459, and rural settlement probably occupied the site long before that date. The location of the city on a low plateau of strategic importance contributed to its early growth. During the period of the Turkish rule in the Balkans, the Bucharest trade links with Istanbul increased its economic importance. Following the Communist takeover in 1948, Government nationalizations created a planned economy with large-scale state-owned enterprises and cooperative units.

DEMOGRAPHIC CHARACTERISTICS

In 1859, the population of Bucharest was 121,700. It grew to 341,300 in 1912 and to 639,000 in 1930. The urban agglomeration of Bucharest grew from 1.1 million in 1950 to an estimated 2.1 million in 1995. The annual rate of population growth averaged 1.6 per cent during the period 1955-1965, increasing to 2.2 per cent between 1965 and 1975, and declining to 0.4 per cent during 1980-1995. Between 1930 and 1966, the population of the city aged: whereas 21 per cent of the population were under age 15 in 1930, only 16 per cent were under age 15 in 1966. Measures were taken in 1967 to stimulate the birth rate and by 1985, the proportion of those under age 15 had grown to 19.4 per cent. The proportion of the population aged 15-44 declined from 61 to 46 per cent over the period 1930-1985.

ECONOMY

The contribution of Bucharest in terms of industrial production is well in excess of its population share. Important activities include printing (59 per cent of national output), soap (45.2 per cent), leather (20.3 per cent), engineering (20 per cent), clothing (18.8 per cent) and chemicals (16.4 per cent). However, Bucharest's share of national industrial output declined from 19.8 per cent in 1955 to 13.5 per cent in 1985. Official controls on migration contributed to the declining role of the city. The industrial structure is dominated by engineering (contributing 44 per cent of value of production), followed by chemicals (12.2 per cent) and food processing (10.5 per cent). Over the years, the industrial structure of Bucharest has changed considerably. The share of textiles, clothing and food processing decreased from 43.4 per cent of industrial output in 1955 to 23 per cent in 1985, while the share of engineering and chemicals increased from 35.9 to 56.3 per cent over the same period. Major products include metals, machine tools, chemicals, pharmaceuticals, agricultural machinery, automobiles, trucks, buses and other transportation equipment. The average number of employees per enterprise increased from 480 in 1955 to 1,330 in 1970 and to 2,380 in 1985. The emphasis on the development of heavy industry has resulted in a low level of output for consumer industries. Tourism provides an important source of foreign exchange. Owing to its location in a fertile agricultural region, Bucharest is an important market for agricultural products.

INFRASTRUCTURE AND SOCIAL SERVICES

During the period 1945-1975, the state housing effort increased considerably. The number of houses constructed by the Government rose from less than 1 house or apartment per 1,000 population during 1948-1950 to 134 per 1,000 in 1971-1975. Because of the economic difficulties of the country, the number of houses or apartments constructed by the State decreased to 123 per 1,000 population during 1981-1985. Because of the insistence of the Government on apartment blocks as the norm for urban housing, together with the economic difficulties after 1975, private housing activity has declined more sharply.

In 1962, the Romanian Communist Party approved the construction of large integrated urban complexes encompassing housing, industry, services and recreational spaces. Since then, several such housing complexes have been constructed and new suburbs have been developed in the region. On 4 March 1977, a severe earthquake struck Bucharest, killing some 1,400 people, injuring 7,600 and destroying and damaging many homes and buildings. It was then decided that, rather than extending housing over the agricultural areas, extra accommodation would be provided by redeveloping the inner suburbs. This redevelopment, which began in 1990, would have confined a population of 2.3 million to 16,000 hectares by the year 2000. The plan called for the destruction of historic buildings and large numbers of houses in certain areas, and the Government's redevelopment efforts were widely criticized. Many householders who lost their property were unable to acquire new independent housing with the inadequate compensation they received. Consequently, most of them became tenants in state-owned multi-storey apartment blocks on the outskirts of the city.

The rivers located around the city have been an important source of industrial water. However, they have increased the probability of flooding and on occasion have caused severe damage to the city. In 1839, one third of Bucharest was flooded; serious flooding subsequently occurred in 1934, 1948, 1972, 1975 and 1979. In order to reduce the risk of flooding, the rivers in the region have been channelized for several hundred metres. Other measures include construction of a large reservoir 65 kilometres above the city, the construction of dykes, diversion of water and the formation of an artificial lake on the western edge of the city.

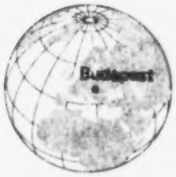
Electric trams were introduced in Bucharest in 1895, followed by buses and trolley buses after 1945. The construction of a metro system, planned to be started in 1954, was delayed until the 1980s. The number of metro cars increased from 24 in 1980 to 172 in 1985, whereas the total number of tramcars, motor buses and trolley buses rose from 1,395 in 1975 to 5,493 in 1980 and then declined to 3,571 in 1985. The number of minibuses, which charge higher fares but offer faster journeys due to limited stops, increased from 44 in 1980 to 157 in 1985. The introduction of the metro has had an important influence on public transportaion.

The environment of Bucharest has been seriously degraded by pollution, not only from industrial sources but also from traffic and domestic wastes. In 1992, about 3.5 million tons of noxious elements were discharged into the air and an additional half million tons were poured into the water. Moreover, improper storage and disposal of industrial and domestic waste have caused dangerous levels of ground pollution.

PLANNING ISSUES

Before the 1960s, the official policy of the Government was to encourage rural-to-urban migration. After 1960, the Government adopted a policy of closing 14 cities, including Bucharest, to in-migration. In 1976, the Council of State passed Decree No. 68, limiting in-migration to Bucharest and 13 other cities with populations in excess of 180,000. Permission to migrate was limited to cases satisfying certain work- or family-related criteria. Residence for purposes of employment was possible only if a job vacancy could not be filled by a city resident or a commuter residing within 30 kilometres. Permission to reside in the city was available to newly-weds if either spouse was a city resident and to pensioners relying on children or grandchildren residing in the city. Dependent children attending a vocational institution or high school were also allowed to move to the city. An overriding basic principle was that the application would be approved only if overcrowding would not result. Applications had to be approved both by the city council and the Council of State. In spite of these controls on migration, it has been estimated that, between 1980 and 1989, about 83 per cent of the growth of Bucharest was attributable to net in-migration.

BUDAPEST
(Hungary)



Budapest, the capital of Hungary, is situated on the Danube in the middle of the Conpetano valley. The city has a long history. There is evidence of human settlement on the western side of the Danube from Neolithic times. At the end of the first century A.D., the Romans strategically located a camp and city on the river Danube at the present site of Bucharest. In the thirteenth century, a fortress named Buda was built on the west bank, whereas a city named Pest was constructed on the east bank. In 1872, these two cities and the city of Obuda were united as a single entity, which after the First World War became the capital of independent Hungary. During the Second World War, Budapest experienced massive destruction, losing approximately one third of its population. More than one fourth of the city buildings and factories were destroyed and damaged, as were all of its bridges. In 1950, the city was enlarged when seven satellite towns and 16 villages on its outskirts were merged within its territory. Budapest has a surface area of 525 square kilometres; the metropolitan area is spread over 1,675 square kilometres.

DEMOGRAPHIC CHARACTERISTICS

The population of the urban agglomeration of Budapest grew from 1.6 million in 1950 to 2.0 million in 1995. The average annual rate of population growth declined from 1.2 per cent during the period 1950-1955 to 0.7 per cent during 1960-1970, became negative (-0.2 per cent) during 1980-1990 and then zero during 1990-1990. According to the 1990 census, the population of the city of Budapest decreased by 2.1 per cent during the period 1980-1989. A negative rate of natural increase of -4.7 per cent was the reason for this decline, while migration accounted for an increase of 2.6 per cent. In 1985, the population densities for the central city and metropolitan area were 3,954 and 1,498 per square kilometre, respectively. In 1985, the metropolitan area had an infant mortality rate of 24.4 per 1,000 live births.

ECONOMY

Budapest accounts for over one third of the industrial output of Hungary. Major industries include metals and precision engineering, chemicals, textiles and food processing. Transportation has played an important role in the development of Budapest, which is a famous crossing point on the Danube and a hub of the trunk roads and main railway lines of the country. As a result of its location, the city has become an important centre for imports and exports. In 1980, the Budapest metropolitan area had an economically active population of 1.5 million, about 85 per cent of whom were employed. The distribution of the employed population (1.2 million) among various activities was as follows: industry (including mining), 36.6 per cent; construction and public works, 10.2 per cent; services, 41.5 per cent; public administration, 6.8 per cent; and agriculture, cattle raising and fishing, 5 per cent. Heavy industry employs more than 50 per cent of the workers. Budapest is also an important commercial centre.

INFRASTRUCTURE AND SOCIAL SERVICES

Budapest sustained major damage during the Second World War, affecting about 75 per cent of the housing stock. This created a severe housing shortage in the post-war period, requiring a massive rebuilding effort and leading to restrictions on permanent and temporary in-migration, which were still in force in the late 1970s. A shortage of decent housing has been identified as the most pressing social problem for the city.

According to the 1990 census, Budapest had 765,000 dwellings, with over 75 per cent having only 1-2 rooms. About 86 per cent of the dwellings were classified as "with all comfort", while approximately 7 per cent were classified as "without any comfort". About 45 per cent of dwellings were owned by their residents, whereas 54.5 per cent were rented. The average number of persons per dwelling was 2.54, whereas there were 1.13 inhabitants per occupied room. Almost 99 per cent of dwellings were supplied with piped water, 87 per cent had sewerage connections, 80 per cent received piped gas and 92 per cent had flush toilets.

Homelessness has recently emerged as an issue of concern for the authorities. As of 1990, it was officially estimated that there were some 20,000 homeless Hungarians living in Budapest, mostly single men, along with thousands of homeless transients from Romania. The increase in the number of homeless persons has been ascribed to a number of factors. In an effort to cut costs, many factories closed down hostels that provided lodging for an estimated several hundred thousand single men. Also, beginning in the late 1980s, there was a relaxation of laws aimed at preventing "social parasitism", which had imposed prison sentences for begging or sleeping in public places. In addition, there was a loosening of regulations requiring citizens to live at the address at which they were registered. In addition, some 3,000 prisoners with less than a year left to serve on their sentences were released by the authorities. In an effort to resolve the problem, the Government established a Crisis Resolution Task Force responsible for providing a system of shelters and soup kitchens to house and feed the homeless.

Hungary recently has become an attractive location for foreign investment and Budapest has emerged as the new headquarters for international commercial activities. City officials have welcomed new construction by foreign developers, but they are determined to preserve the character of the old city. A recent proposal for a 40-storey building, for example, was rejected.

The availability of public transportation and the use of private transportation facilities have aided the development of suburban areas around capital. Urban transport is well developed in Budapest, with a combination of bus, surface rail and a recently extended underground rail network. There is concern, however, over the potential for congestion and pollution resulting from increasing private car ownership. In 1986, there were over 389,000 passenger cars and 1,880 buses in the city proper, and Budapest now has the highest concentration of cars in Eastern Europe. The European Bank for Reconstruction and Development recently committed funds for improvements to the city public transportation system.

PLANNING ISSUES

After the Second World War, the first national Five-Year Plan called for reduction of the growth of Budapest, as well as decentralization of industry throughout the country as a whole. In 1971, the Government's National Settlement System Development Concept identified the overall aim for the development of the various settlement systems up to the end of the century. The plan also indicated the hierarchical order of the settlements and their respective means of development. Budapest, the capital, was accorded the highest position in this hierarchy. The plan set an upper limit of 2.6-2.8 million for the population of the Budapest urban agglomeration.

BUENOS AIRES
(Argentina)

Buenos Aires

In the early colonial period, the economy and urban system of Argentina was tied to the rich silvermines in Upper Peru. The Atlantic coast was of little consequence, and it was principally to establish a bulkhead against the Portuguese that Buenos Aires was founded by Spain in 1536 and again in 1580. Buenos Aires was initially an economic backwater but evolved as a centre for contraband. By the early 1700s, the estuarine port was the major city of the Atlantic littoral and recognition by the Spanish crown of the de facto importance of Buenos Aires led to its selection in 1776 as the seat of the Vice-Royalty de la Plata

Regional struggles for economic and political dominance led to uneasy decades after independence in 1810, but by the 1850s Buenos Aires was fully confirmed in its economic primacy; in 1880 its political dominance was recognized by its conversion from provincial to national capital.

As early as the 1860s the exploitation of the vast pampas surrounding the city became increasingly tied to growing European markets by the port of Buenos Aires. The decades from 1860 to the world depression of the 1930s converted Buenos Aires from a large colonial town to one of the largest and most prosperous cities in the world.

The metropolitan area of Buenos Aires, which currently consists of the federal capital plus the 19 surrounding districts that together constitute Greater Buenos Aires, extends over an area of 3,800 square kilometres. The metropolitan area has an average population density of 2,800 per square kilometre, ranging from 14,842 per square kilometre in the federal capital to 154 per square kilometre in one of the districts in the outer ring.

DEMOGRAPHIC CHARACTERISTICS

From a population of 93,000 in 1855, Buenos Aires began to grow very rapidly, at rates of between 3.9 and 5.7 per cent per annum through the 1920s. By 1914, the city had passed 1.5 million population, and in 1920 was one of the nine largest cities in the world, with a population of 2.3 million. Thereafter, its growth began to slow.

The Buenos Aires metropolitan area has been growing at very moderate rates in recent decades, mainly because migration, both of the native and foreign-born population, has slowed considerably. The population of the metropolitan area grew from 5 million in 1950 to 8.4 million in 1970 and to slightly under 11 million in 1995, making it the third largest city in Latin America. The urban agglomeration of Buenos Aires continues to grow very slowly, with a rate of population growth of 0.68 per cent per annum during 1985-1995. According to the United Nations *1994 Revision*, the Buenos Aires urban agglomeration will have a population of 12.1 million in 2010.

Buenos Aires is a primate city that has 36 per cent of the urban population and 32 per cent of the total population of Argentina in 1995. In recent decades, a noticeable process of population redistribution with the metropolitan area has been taking place, by which the 19 outlying districts of Greater Buenos Aires greatly increased their share. Whereas parts of the federal capital have had negative population growth, a number of districts in the outer ring continue to experience very rapid population growth.

The demographic transition in Argentina followed a path different from most Latin American countries, with both mortality and fertility decline starting before the end of the nineteenth century. Buenos Aires has a relatively low level of fertility, with a total fertility rate of 2.2 births per woman in 1990. Argentina had one of the most rapidly ageing populations in the developing world, with the its age structure currently resembling that of a developed country. The phenomenon has been particularly acute in Buenos Aires, where 22 per cent of the population was over 60 years of age in 1990.

Buenos Aires is of vital importance to the economy of Argentina, with the economy of the federal capital contributing 24 per cent of the national product in

1989; the contribution of economic activity in the secondary and tertiary sectors was 14.7 and 33.3 per cent, respectively.

The central city monopolizes the tertiary and quaternary sectors of the metropolitan economy. In 1985, some 524,000 jobs in the commercial service category were recorded within the limits of the federal capital. Among them were the majority of jobs in international mercantile and financial activities, upscale retailing, better hotels and restaurants, and various branches of the entertainment industry.

Although retail and other commercial trade remains strongly tied to the inner city, the surrounding districts of Greater Buenos Aires have understandably become the principal industrial zones as new firms sought cheap land and few regulations or infringements on operations at the edge of the city. Particularly significant after the 1940s was the industrialization of the northern and western districts of La Matanza, Moron and General San Martin while the older industrial clusters of Avelleneda, Lanus and Quilmes to the south of Buenos Aires grew simultaneously.

The 1985 commercial/industrial census records some 1.37 million industrial jobs in Argentina, of which 436,000 are in the surrounding districts and 231,000 in the federal capital. The figures reflect both the economic dominance of Greater Buenos Aires on the national scene and the long-term trend, notable since the 1930s, in the movement of large-scale industry away from the older residential areas of Buenos Aires to the more inexpensive lands of the suburban districts.

The most striking recent trend in the Buenos Aires labour market is the continuing growth of the tertiary sector in the federal capital. Indeed, the percentage of persons employed in the tertiary sector increased from 76.9 per cent in 1980 to 80.7 per cent in 1989. Other recent trends have been an increase in the efficiency of industrial employment, the growing participation of women, the increasing precariousness of conditions of employment, and the growth in unemployment, which has now reached 10 per cent.

INFRASTRUCTURE AND SOCIAL SERVICES

Access to infrastructure in the metropolitan area is very uneven. Whereas only 5 per cent of the population of the federal capital lived in substandard housing as of 1991, the proportion rose to 28 per cent in Greater Buenos Aires. Likewise, whereas only 0.1 per cent of the population of the federal capital lacked access to the public water supply, the proportion rose to 43.6 per cent in Greater Buenos Aires and to as high as 90 per cent in a number of municipalities in the second and third rings (e.g., General Sarmiento, Florencio Varela). Sanitation on the periphery is also very poor, with 23.4 per cent of the population of Greater Buenos Aires considered to be at high risk of exposure to unsanitary conditions and 45.5 per cent to be in a situation of potential risk.

The federal capital and outlying municipalities have a fairly efficient system of solid waste collection. In the city and surrounding districts, some 350,000 tons of waste per month is collected by the Coordinacion Ecologica Area Metropolitana (CEAMSE), and disposed of in one of four sanitary landfills. On the periphery, waste is often uncollected or disposed of in open dumping sites, estimated by CEAMSE to contain some 1.4 million tons of environmentally hazardous material, spread over an area of nearly 500 square hectares.

Regarding air pollution, although Buenos Aires has favourable natural ventilation conditions, amounts of suspended particulate matter exceed the guidelines recommended by the World Health Organization (WHO). In general, however, air pollution problems in Buenos Aires are poorly characterized in the absence of substantial monitoring programmes.

The system of public transport in the Greater Buenos Aires region consists of 299 public bus routes, with an extension of 25,000 kilometres and a fleet of 15,000 vehicles; 5 subway lines with a network of 44 kilometres and 6 metropolitan railway lines extending over 901 kilometres. Whereas the percentage of trips by public transport declined by 24 per cent between 1970 and 1992 (from 66.7 to 59.7 per cent), the percentage of trips by private automobile increased by 58 per cent, from 15.4 to 24.3 per cent. Whereas there was a sharp decline in the use of taxis, the percentage of trips by bicycle or on foot increased by 30 per cent between 1970 and 1992. In recent years, a major privatization effort has been under way, involving the metropolitan railway and the subway system. In an effort to control vehicular congestion, in 1994, the authorities in the federal capital imposed restrictions on the use of private automobiles, prohibiting private cars from circulating one day each week, depending on the last digit of the license plate.

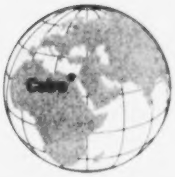
PLANNING ISSUES

Urban planning in Buenos Aires first appeared conceptually with the 1926 master plan, active planning commenced in 1932 and the use of zoning laws began in 1934. Regional planning has been at best spasmodic, but usually non-existent. The 1977 Code of Urban Planning, which in theory still regulates urban planning in Buenos Aires, is even incompatible with the legal instruments of the 19 adjacent districts subject to provincial law 8912/77.

The most recent initiative in the planning field involves the private sector. In a city where growth traditionally occurred along transportation corridors, plans are being developed that aim at filling in the interstices between those corridors. In contrast to previous plans, a major goal is to make private-sector investment compatible with the objectives of the new plan.

In regard to physical planning, considerable progress has been made in the federal capital in terms of reviving decaying older neighbourhoods and parks. In recent years, La Boca, San Telmo, Barracas, the port (Puerto Madero) and a number of other areas have undergone successful urban renewal.

CAIRO
(Egypt)



Cairo, the capital of Egypt, is the largest city in the Middle East. Although Cairo itself is only about 1,000 years old, parts of the metropolis are considerably older. Al Fustat, the first Muslim settlement in Egypt, was joined in 1187 with three other settlements to form pre-modern Cairo. Controlled by the Mamluks from 1250 to 1500, Cairo was conquered by the Turks in 1517 and entered a period of protracted decline. Following a brief period of Napoleonic rule, the population of Cairo uprose against the Turks. Under Viceroy Mohammed Ali (1805-1849), Cairo experienced rapid change, although the boundaries of the city were not fundamentally altered.

After around 1850, there was a sustained influx of foreigners into Cairo. Khedive Ismail (1863-1879) sought to transform Cairo into a modern European-style city. Following a popular rebellion, the British occupied Cairo in 1881. During the period of British rule, a number of new suburbs were developed for foreigners and affluent Egyptians. Meanwhile, the old city, which contained nearly half of the population of Cairo, was increasingly neglected.

Cairo experienced a major construction boom at the turn of the nineteenth century. A number of new elite areas were developed along the Nile. Heliopolis, a planned satellite city, expanded rapidly after the introduction of electric tramways, which linked it to the central city. The construction of bridges across the Nile also promoted development of the north-eastern suburban area. With the increasing neglect of the old city and the gradual diversion of commercial activity to the wider paved streets of modern Cairo, the old and new cities became increasingly isolated and distinct.

DEMOGRAPHIC CHARACTERISTICS

From an estimated population of about 600,000 at the end of the nineteenth century, the population of Cairo surpassed 1 million by 1927, 2 million by 1947 and 3 million by 1960. Whereas its population growth averaged between 1 and 2 per cent per annum up to the early 1930s, its growth rate subsequently doubled, averaging about 4 per cent in the early 1960s. Its population growth declined, however, to below 2 per cent in the early 1970s, probably as a result of the large number of migrants working abroad, as well as the fertility-depressing effects of stagnant economic conditions in 1967-1973.

During 1976-1981 Cairo experienced rates of net in-migration that were approximately 50 per cent lower than the average during all previous intercensal periods since the Second World War. The decline was unanticipated.

According to preliminary results of the 1986 census, nearly 9 million inhabitants were living in the Cairo metropolitan area, an almost continuously urbanized area that is comprised of Cairo City, Giza City, Markaz El Giza and Shubra Al Kheima City; nearly 10 million inhabitants were living in the Greater Cairo Region, which encompasses a number of small rural towns and agricultural villages in Giza and Qaliubiah Governorates. United Nations 1994 estimates placed the population of the Cairo urban agglomeration at 9.6 million and is projected to reach 13.2 million by the year 2010.

Cairo's crude death rate was estimated to be 7.3 per 1,000 in 1986. Average life expectancy at birth was 60-65 years for males and 63-68 years for females. The major causes of death were diseases of the digestive, respiratory and circulatory systems, followed by accidents. The crude birth rate was estimated to be 30.6 per 1,000 in 1986. Average household size in Cairo Governorate was 4.4 persons per household.

ECONOMY

Major developments in establishing current industrial base in Egypt took place after 1920, when Misr bank began to grant loans to private industrial investors. Industrial establishments were highly concentrated in Cairo and Alexandria, and both cities developed a widely diversified industrial mix. After the Revolution of 1952, the Government's major efforts were directed towards introducing new types of industries and dispersing some industrial activities away from Cairo and Alexandria. The industrial strategy of the 1950s and early 1960s played a major role in shaping the present map of industrial Egypt. Most Egyptian investment during the 1970s was allocated to the upgrading, expansion and renovation of already established industries.

During the 1970s, Cairo experienced a shift in economic policy. The Government's new strategy, called Al-Infitah, aimed at improving the efficiency of the public sector and liberalizing the economy, mainly by seeking increased foreign investment and giving a greater role to the private sector. By the early 1980s, Egypt's economy was chiefly dependent on revenues from oil exports and repatriations from workers in the Middle East. With the fall in world oil prices and the reduced flow of remittances from abroad after 1982-1983, the country faced a difficult economic situation. In spite of the decline in foreign exchange earnings, overall economic growth was maintained at a 6-7 per cent level for another several years, but at a cost of a rapidly worsening balance of payments deficit and a sharp increase in foreign debt.

INFRASTRUCTURE AND SOCIAL SERVICES

Although the conservation of agricultural land has long been a cornerstone of Egyptian development policy, much of the critically needed arable land in Cairo is being lost to urban encroachment. The urbanized area of Cairo is currently increasing by nearly 1,200 hectares per annum, of which more than half consists of illegal development on agricultural land and the rest is planned new development in the desert.

Since most farm land in Egypt is in private hands, the Government has been unable to control the spread of illegal subdivisions. Owing to lack of irrigation and poor drainage, agricultural land values in many areas have been eroding, making conversion profitable. To date, the Government's major policy response has been negative controls, which are generally considered to have been ineffective.

It is widely believed that there is a severe shortage of housing units in Cairo. The occupation of tomb houses converted into permanent dwellings is widespread in many Cairo cemeteries. Roof squatting is common and consists of small wood or brick constructions added on to the terrace of low standard buildings. Although housing crisis in Cairo has been vividly described in the international news media, in reality, the situation is far more complex. Mainly as a result of the contribution of the informal sector, the housing stock of Cairo has expanded not only at a rate high enough to accommodate new household formation and in-migration, but also to accommodate some moves by established households. Currently, it is estimated that Cairo may have a surplus of some 1 million housing units.

Given the limitations of the formal housing market, the bulk of housing being supplied in Cairo in recent years has been "informal". It is estimated that informal housing accounted for 84 per cent of housing units constructed in Cairo between 1970 and 1981. Whereas informal housing is similar in terms of building design and materials to formal housing (in fact, new informal housing is of far better average quality than older existing housing), it is built in contravention of either building codes or zoning laws.

Surface waters from the Nile River are the major source of bulk water supply in Cairo. Its distribution system, which was constructed in the late nineteenth century, is obsolete and inadequate. About 20 per cent of the city population, mainly on the periphery, has no access to piped water and uses substitute sources such as canals, wells and public water fountains. Moreover, the supply fluctuates over much of the urban area. Average per capita supply is about 300 litres daily. However, because of huge water losses resulting from leaking and broken pipes and poor household fittings, only about half of that supply reaches the consumer.

A 20-year programme to expand production capacity and extend the distribution network of Cairo is currently under way. In addition to a number of large capital projects, the Government has attempted to conserve water through rate increases and public information campaigns. Whereas efforts have been made to conserve water in Cairo proper, the new settlements have been heavy users of purified water.

The Cairo sewerage system was installed between 1915 and 1920. Designed for a population of under 1 million, the capacity of the system was expanded over the years to keep pace with the increasing size of the service area. Projects undertaken in the past decade to improve the system included one of the largest sewerage projects in the world. The project vastly improved the hydraulic capacity of the wastewater system and has nearly eliminated the problem of sewerage flooding. However, because of the emphasis on resolving system problems and improving services in areas currently included in the system, the lowest income groups in informal settlements on the periphery have remained unserved by existing water and wastewater systems.

Cairo has serious air pollution—mainly from motor vehicles but also from factories to the north and south of the city centre. The city is also plagued by water pollution; although the law prohibits discharge of waste water into the Nile, urbanization, irrigation, navigation and industrialization as well as modifications of natural river flow environments have all contributed to the deterioration of the water found in the Nile River.

The Governorate's Department of Health, in coordination with the Ministry of Health, supervises stations for monitoring air pollution in all districts of Cairo. The stations identify pollutant types and determine the extent to which they are present in the air. There are also attempts to curb air pollution through mandatory vehicle inspections, the relocation of parking lots and public transportation stops away from residential areas, and the sporadic monitoring of high traffic areas at peak hours in order to measure the concentration of noxious gases. The opening of the metro has decreased the use of private vehicles, expediting the flow of traffic.

A number of large sewage treatment stations have begun to operate in Cairo; a specialized training centre has trained 6,000 employees to date and senior employees have been sent on training missions abroad to study the latest operation and maintenance techniques. Cairo Governorate encourages national sanitation companies to undertake solid waste collection from residential units in Cairo district; to date, 63 private-sector companies are responsible for refuse collection. Specialized companies, both local and international, are encouraged to establish composting plants, and to market the products themselves or jointly with the governorate.

Cairo Governorate utilizes the media, including radio, television, newspapers and magazines, to promote environmental awareness among its citizens; organizes field visits to the various scientific, industrial, and governmental projects and institutes; prepares environmental awareness literature for students and employees; and takes advantage of popular celebrations such as the annual Nile Inundation to encourage environmental awareness.

Cairo's electric power supply has improved markedly over the past several years. Electricity is now available to almost everyone in Cairo, although customers experience low voltage.

Cairo is one of the world's most densely populated cities, with one of the lowest provisions of road space per capita and dramatic growth in the number of private vehicles. In addition to severe traffic congestion, Cairo has a crowded, insufficient bus and tram fleet, an inadequately developed secondary road network, ineffective traffic management, especially in the central business district, and an acute shortage of parking spaces.

Cairo's 42.5-kilometre metro, which has the capacity to carry 60,000 passengers per hour in each direction, represents the first stage of ambitious transport planning that aims at reducing above-ground traffic by as much as 75 per cent. Because of the poor quality of service, the number of daily passenger trips by public transport remained approximately constant over the past decade, whereas the use of private vehicles has increased rapidly. The publicly operated Cairo Transportation Authority has a stock of 2,300 vehicles, up to one third of which are not available for service on any given day. Whereas the share of the formal public transport sector dropped significantly, the share of informal public transport, e.g., microbuses, private buses and taxis nearly doubled. The microbus system in Cairo is basically a free-market operation subject to few constraints.

Although the number of private vehicles in Cairo has been increasing by 17 per cent per annum, the level of car ownership is low, at about 26 per 1,000 population. Despite repeated recommendations of the large number of transport studies prepared for Cairo during the 1970s and 1980s to assign highest priority to public transport, most investment went into the construction of bridges and flyovers, which essentially service private automobile users. Another factor that spurred the growth of private transport was the heavily subsidized cost of fuel.

PLANNING ISSUES

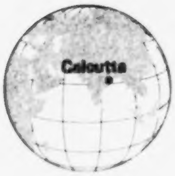
Cairo has a long history of planned urban development. Its first master plan, which was issued in 1956, closely followed the traditions of British town and country planning. Typical of many of the early master plans prepared for cities in the developing world, the plan greatly underestimated the future demographic growth of Cairo, projecting a population of only 5.5 million by the year 2000. Among its major legacies, the plan recommended development of a new government centre, Nasr City, to the north of the city outside the central business district.

The second master plan of Cairo was drawn up by the Greater Cairo Planning Commission between 1965 and 1970. The plan retained a number of concepts from the 1956 master plan, namely, assigning Cairo an optimal size and containing the city by means of a ring road. However, the plan broke new ground by introducing the concept of a Greater Cairo Region and by recommending the construction of planned cities in the desert. In 1975, planning began for two new towns designed to accommodate 500,000 inhabitants each: Tenth of Ramadan City and Sadat City. Later, a decision was made to construct a number of satellite cities in the Cairo Metropolitan Area. These cities were to be smaller than the free-standing cities and more closely integrated with Cairo. Fifteenth of May, a satellite city for 150,000 designed to serve as a dormitory town for the Helwan industrial area, was launched in 1979. Planning subsequently commenced for Sixth of October City, Al Amal City, El Obour City and Salaam City.

The 1983 Cairo Master Scheme, which is nominally still in force, does not break with past policies. Among other things, the plan seeks to limit the growth of population in the Greater Cairo Region by halting the destruction of agricultural areas; to end the radial development of the agglomeration by means of a ring road and non-contiguous new settlements and to improve the living conditions of Cairo residents through a more efficient public transport policy.

Under the Master Scheme, development of new towns and satellite cities will continue. The targets, however, have been scaled down; the cities are expected to absorb a total of only about 900,000 inhabitants by the year 2000, instead of their theoretical capacity of 1.9 million inhabitants. A second major concept in the Master Scheme is that of development corridors, which link the Greater Cairo agglomeration with other economic regions of Egypt.

CALCUTTA
(India)



Established by the British East India Company in 1690 as a trading outpost, Calcutta consisted of a number of small settlements on the west bank of the Hooghly River which at that time was the main channel of the Ganges on its way to the sea. As the first centre of British investment in eastern India and political capital of India until 1912, Calcutta got a head start on the rest of the country in the industrialization process. The first jute mills were set up in the area of the present Calcutta Metropolitan District (CMD) in the 1870s, paper mills in the 1870s and 1880s, and chemical and pharmaceutical plants in the 1890s. By the time of the census of 1921, 35 per cent of all industrial workers in India were located in Bengal, compared with 25 per cent in Bombay State. The dominant urban centre and sole metropolis of eastern India for nearly two centuries, Calcutta is also an important commercial and manufacturing city, as well as a major educational and cultural centre.

DEMOGRAPHIC CHARACTERISTICS

By 1872, the year of India's first census, Calcutta had grown from a population of some 10,000 in the early eighteenth century to a population of 633,000. During the first three decades of the twentieth century, Calcutta experienced low and erratic rates of population growth as a result of periodic floods, crop failures, epidemics and other natural disasters. The growth rate of CMD was moderately low and stable during 1951-1961 (at 2.3 per cent per annum) and 1961-1971 (at 2.1 per cent per annum), with the population reaching 8.33 million by 1971. During 1971-1981, population growth in CMD continued to decline, and was virtually stagnant in Calcutta City and in Howrah, the second largest municipality in the metropolitan region, which is located on the western bank of Hooghly; their average annual population growth rates were 0.5 and 0.1 per cent, respectively). The total population of the Calcutta urban agglomeration was 9.19 million in 1981 and that of CMD was approximately 10.3 million. Of the four mega-cities in India, Calcutta had the lowest rate of natural increase at 1.3 per cent per annum. Although it exhibited a low growth rate, Calcutta had the highest population density of any city in India, with 13,640 inhabitants per square kilometre. In 1991, the population of Calcutta was 10.9 million. According to the United Nations 1994 estimates, the population of the Calcutta urban agglomeration was 11.7 million, which is projected to reach 15.6 million by the year 2010.

Although net migration has ceased to make a significant contribution to population growth, Calcutta still adds a quarter of a million people each year to its population through natural increase. Although information on vital rates is not readily available, there is evidence of a decline in fertility and mortality in urban areas and of widespread fertility and mortality differentials between urban and rural West Bengal.

Calcutta is home to a large number of migrants from other states of India, mostly from Bihar, Orissa and eastern Uttar Pradesh. The majority are unskilled manual workers, although there are some skilled labourers and traders. In the early 1970s, and again in the early 1980s, thousands of refugees from East Pakistan (now Bangladesh) left the neighbouring areas of north-eastern India and settled in Calcutta.

ECONOMY

Although Calcutta had recovered by the late 1950s from the loss of part of its natural hinterland by partition, it has more recently been plagued with many problems: severe power shortages, raw material limitations, shortage of capital, a reputation for labour troubles and chronic excess capacity. The agricultural sector produces mainly for the internal market. The industrial structure is weak and still dominated by traditional industries (e.g., textiles, heavy engineering, jute, rubber and paper), many of which are so "sick" (to use the local terminology) that they have had to be taken over by the Government of West Bengal. Indeed, Calcutta has more than 100 "sick" large-scale industries, representing about half of the large "sick" units in the country, as well as some 7,000 "sick" small-scale units, representing about one third of the total in the country.

Calcutta is the world's largest producer of jute; the city also manufactures, processes and distributes such consumer goods as rice products, wheat, flour products, sweetmeats, dairy products, edible oils, tobacco, betel nuts, nonalcoholic drinks, toilet products, textile products, hosiery goods, bedding materials and footwear. The coal mines, tea plantations and many industrial establishments in West Bengal and neighbouring states are managed and financed from Calcutta. Tea and jute are the chief agricultural products. Chief exports that pass through the port of Calcutta are crude steel, pig iron, coal, machinery, jute sacking, sugar and tea. Besides being a major shipping centre in eastern India, Calcutta is also an important centre for printing and publishing, as well as of recreation and entertainment.

The economy of Calcutta is primarily mercantile; two fifths of its workers are employed in the distributive trades. The majority (41 per cent) of the 187,719 non-agricultural enterprises in Calcutta are wholesale and retail trade; manufacturing and repair services account for 23 per cent of the total number of businesses. Other important employment sectors include public service in various government departments, the armed forces, the police and banks. The Life Insurance Corporation of India also employs many workers. Private service employers include the stock exchange, medical and educational services, legal services, accounting and credit firms, chambers of commerce and various public utility services. With about one third of the foreign banks in India, several chambers of commerce and a stock exchange, Calcutta is financial headquarters of eastern India.

INFRASTRUCTURE AND SOCIAL SERVICES

Although the location of Calcutta is well suited to trade, the low, swampy, hot and humid riverbank site is less than ideal for human habitation. The land slopes eastward from the river towards marshes and swamplands, with similar topography on the western bank. Thus, the metropolitan area is confined to a strip which is from 4.8 to 8 kilometres wide on either bank.

Calcutta has a shortage of vacant land, which has led to rising prices and slowing acquisition of land for public purposes. It is paradoxical that, while the Calcutta Metropolitan Development Authority (CMDA) has been filling in marshland in peripheral areas for new development schemes, land is used very inefficiently even in the inner city, where low shacks spread behind narrow rows of two- or three-storey houses.

A basic feature of the housing situation in CMD is the large proportion of the population living in squatter and slum conditions. Currently, about one third of the population of CMD live in overcrowded settlements that consist of temporarily constructed single-storey huts shared by an average of five families. These settlements are of three types: statutory bustees, squatter settlements (which differ from statutory bustees in that they are unregistered slums, usually built in fringe areas on public land) and refugee colonies, which were built to house refugees from East Bengal after partition.

As a result of considerable investment in the water supply sector, water supply in Calcutta increased from 80 million to 140 million gallons daily. Moreover, distribution has improved as a result of the emphasis on the construction of more than 20,000 standpipes in the bustees of CMDA. In fact, access to water in Calcutta is now better than in most large cities in India.

With the construction of new large sewage treatment plants, sewerage has improved to the point that one half of the population currently has access (up from one third). Drainage has long been one of the most serious infrastructure problems in the city (because the land slopes away from the river, there is no natural drainage and an elaborate pumping system must be used). Poor maintenance of drains and periodic clogging of the system result in annual flooding. CMDA has implemented more than 70 drainage and outfall improvement schemes in recent years. With respect to environmental sanitation, CMDA has implemented a programme of solid waste management to deal with the daily accumulation of 2,500 tons of solid waste and converted more than 50,000 privies into sanitary latrines.

Owing to extremely high population density and limited surface roads in Calcutta, perhaps nowhere else in India is traffic more chaotic and slower moving. Bullock carts, rickshaws and bicycles, combined with poor traffic planning, add to the traffic congestion. Transport planning is hampered not only by the fact that there has been no appreciable change in the road network of the city for the past century but also by the lack of vacant land. In addition, periodic flooding makes large sections of the city impassable except to non-motorized vehicles such as rickshaws and cycle rickshaws. Besides traffic congestion within the central city, Calcutta faces the problem of severe overcrowding on public vehicles within the city and on trains and buses carrying the daily passenger load of 1.2 million commuters from outlying areas. In order to cope with the serious deficits in the transport sector, three large-scale infrastructure projects—the Calcutta Metro Railway, the circular railway and the Second Hooghly River Bridge—have been implemented in recent years.

Public transportation system in Calcutta consists of buses, trains, the metro, trams and ferries. In 1980, excluding walking (25 per cent of all trips were made by walking), the bus was the most popular means of transport, accounting for 67 per cent of all motorized trips. Buses and trams, which link railway stations with workplaces, are important means of transport in the city centre. The fleet of approximately 650 buses of the State Transport Corporation is supplemented by buses run by private operators; it is estimated that there are more than 5,000 buses on the roads of Calcutta, and an additional 4,300 buses in neighbouring areas. Local trains transport commuters to the eastern part of the city, while an underground suburban railway (metro) has helped to reduce traffic congestion by linking Esplanade to Tollyganj, a distance of 16 kilometres. While walking and public transport remain the major means of transportation in Calcutta, total motor vehicle registrations have more than doubled between 1981 and 1989; in 1989 there were approximately 500,000 motor vehicles registered in the Calcutta Metropolitan District. The most significant increase has been in the number of two-wheelers, especially scooters and mopeds. In 1980-1981, the ratio of cars to two-wheelers was approximately 2:1; by 1988-1990, the ratio was almost 1:1. Motorcycles, scooters and mopeds are the most common motor vehicles in Howrah and other neighbouring districts.

While Calcutta has a relatively small number of motor vehicles, the number of motor vehicle registrations is doubling every six years. This trend, which is expected to continue at least up to the year 2000, has led to increased levels of vehicular emissions, including carbon monoxide, nitrogen oxides and sulphur dioxide. Moreover, many vehicles remain in circulation for years, their old, inefficient engines emitting even more pollutants into the atmosphere. While vehicles contribute greatly to air pollution in Calcutta, the burning of coal for industrial and domestic fuel accounts for a significant percentage of emissions, especially suspended particulate matter which has become a major problem throughout the city. According to estimates of the National Environmental Engineering Research Institute (NEERI) in Nagpur, 60 per cent of Calcutta residents suffer from some type of respiratory disease as a result of air pollution. Approximately 90 per cent of slum dwellings burn coal and charcoal as fuel, causing a high incidence of respiratory diseases in those areas. While industrial emissions have, to a large extent, stabilized over the years (and, in some cases, have even declined), carbon monoxide and nitrogen oxides from motor vehicle emissions remain a great threat to the air quality in the city.

PLANNING ISSUES

Planning for the development of metropolitan Calcutta began in the early 1960s, following the establishment of the Calcutta Metropolitan Planning Organization. The spatial strategy recommended in the Plan was a bipolar metropolitan structure, with Kalyani-Bansberia in the north of CMD being promoted as a counter-magnet to the Calcutta-Howrah core. In spite of substantial investments in infrastructure in the years that followed, Kalyani-Bansberia failed to develop and to function as a counter-magnet. In the Development Perspective and Investment Plan of 1976, the bipolar strategy was formally abandoned in favour of a "multicentric" or "polynodal" strategy aimed at achieving a more balanced spatial distribution of population and the desired dispersal of economic and employment opportunities within CMD.

Although a multicentric spatial structure is still being pursued, CMDA fundamentally revised its spatial strategy in 1981, only five years after the Development Perspective and Investment Plan was drafted. One of the main reasons for revising the strategy was that the Plan concentrated on developing pairs of growth centres around the central core, disregarding spontaneous growth in other parts of CMD. The revised structure plan assumed that growth would occur both around the Calcutta-Howrah core and in the north-west portion of CMD.

Implementation has proceeded slowly. Since CMDA is not an economic planning agency but primarily a public works agency, it has not developed explicit policies to induce metropolitan decentralization. The most clear-cut action it has taken to achieve a more balanced spatial distribution has been to shift the pattern of its investment away from primary infrastructure towards integrated area upgrading and new area development programmes.

CARACAS
(Venezuela)

Caracas, the capital of Venezuela, is one of the most developed cities in Latin America. The city was founded in 1567 and grew slowly until the 1940s, following which its rate of growth increased considerably. Caracas is located in a valley and is surrounded by mountains that limit the growth of the city. Most of the inhabitable area in the valley has been covered by urban development. This has led to shortages of land and to high population density throughout the valley. Despite its geographical limitations, the city has continued to grow and develop rapidly. As the largest urban agglomeration in Venezuela, Caracas is also the centre of industry, commerce, education and culture.

DEMOGRAPHIC CHARACTERISTICS

The population of the urban agglomeration of Caracas grew from 676,000 in 1950 to an estimated 3.0 million in 1995. The average annual rate of population growth declined from 6.4 per cent in the 1950s to 4.7 per cent in the 1960s and to 1.3 per cent in the 1975-1980, and it remained the same thereafter. The population of Caracas is expected to reach 3.6 million by the year 2010. The development of industrial activities in Caracas has prompted rapid rates of urbanization, attracting many migrants to the city. Both internal and international migration and high natural increase have contributed to the rapid population growth of the city.

ECONOMY

The economic life of Caracas is based largely on the activities of the Venezuelan Government. Government agencies, construction projects and the Government-owned oil industry are important sources of employment for the population of the city. Over 20 per cent of manufacturing establishments and 30 per cent of the industrial labour force in Venezuela are located within the Caracas metropolitan region. The main industries in the city include wood processing, textiles and clothing, and the production of sugar, processed foods and tobacco. The service sector (including wholesale and retail trade, transportation and public utilities, education and health care, and public administration) is the most important segment of the economic life in the city. Tourism is also a growing industry. The growth of the construction industry has led to the expansion of auxiliary industries such as the production of cement and construction materials. Caracas is also the principal centre of petroleum-related activities, domestic and foreign commerce, and banking.

INFRASTRUCTURE AND SOCIAL SERVICES

Rapid population growth in Caracas has led to problems in the provision of basic services. One area of major concern is the supply of new housing. To meet the growing demand, there has been large-scale building of cooperative apartment houses, public housing developments, commercial structures and many high-rise apartments. The construction of new housing, however, remains inadequate. Consequently, many homes constructed of corrugated metal, cardboard, or other scrap materials have been built on the hillsides of the city.

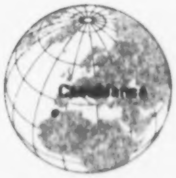
In recent years, Caracas has faced the problem of deficient public services in both rich and poor neighbourhoods. These problems include water supply, waste collection and disposal, unrepaired streets, shortages of public schools and hospitals, poor public transportation, and environmental pollution. The Government has tried to improve living conditions by reconditioning buses, placing thousands of litter baskets along the streets and public walkways, and implementing a number of new public works.

The major means of transportation in the city are buses, private automobiles, and taxis. The increasing number of vehicles has aggravated traffic congestion. The inauguration of a modern subway system in 1983 led to some improvements in the public transportation system. Since 1940, the city has had water shortages, leading to a continuing search for new sources of supply. In order to meet the growing demand, two dams and an aqueduct have been constructed. Nevertheless, water supply remains one of the major problems of the city. Health-care facilities have also been strained by the problems of treating the large low-income population of the city. The discharge of raw sewage into the river, together with air pollution from industry and automobiles, have aggravated environmental problems.

PLANNING ISSUES

As early as 1956, the Government formulated a plan for the decentralization of Caracas and the development of secondary urban-industrial centres. In order to reduce the rapid urban growth of the country, the Government has invested in hydroelectric power, iron mining and steel manufacturing projects in the Orinoco delta, thereby encouraging population movement to this less densely populated region. The Government has also developed programmes encourag -ing rural colonization and improved agricultural production. One of the measures aimed at controlling the growth of the Caracas metropolitan region has been the prohibition of the location of new industries, with the exception of small and medium-sized firms providing services. The Government has also discouraged further expansion of universities in the metropolis. Other measures employed have been direct financial and fiscal incentives and indirect assistance, such as the provision of infrastructure, to induce existing enterprises to leave the Caracas region. In addition, industries that pollute the environment are required to move from the city to less populated areas. A study assessing the effects of these measures has indicated that locational decisions have been generally unaffected by these fiscal and financial incentives.

CASABLANCA
(Morocco)



Casablanca, the largest city and principal port of Morocco, is located on the Northern African Atlantic seaboard. While the origins of the town are unknown, a Berber village, called Anfa, stood on the present-day site of Casablanca in the twelfth century, and the first written reference to the small but active commercial centre of Anfa dates to the thirteenth century. Occupied and later destroyed by the Portuguese, who subsequently returned to the area and built a new town called Casa Blanca (White House), the city was abandoned in 1755 after a devastating earthquake. The town was rebuilt by Sultan Sidi Muhammad in the late nineteenth century and was settled by European merchants, including Spaniards who named it Casablanca, and the French who referred to the town as Maison Blanche.

Rapid commercial development, especially the growth of its port, has made Casablanca the economic capital of Morocco, while its beaches, parks and promenades have turned the city into the chief recreational centre of the country.

DEMOGRAPHIC CHARACTERISTICS

Casablanca was an insignificant village prior to the colonial period; the inland cities of Fez, Marrakesh and Meknes were the largest and most important administrative and commercial centres in Morocco. The colonial era witnessed the opening of the Moroccan economy, which resulted in a reorientation of the urban system, and the rapid expansion of coastal cities. Both the capital, Rabat, and Casablanca grew rapidly during the colonial era.

The population of Casablanca grew from 626,000 in 1950, to 1.5 million in 1970 and to 2.1 million in 1980. The average annual rate of population growth, which was 3.1 per cent during 1990-1995, is expected to decline to 2.1 per cent by the period 2005-2010. The United Nations *1994 Revision* placed the population of the Casablanca urban agglomeration at 3.3 million in 1995, which is projected to reach 4.7 million by the year 2010. Approximately 12.2 per cent of the total population of Morocco resided in the agglomeration as of 1995.

ECONOMY

Casablanca is the most important commercial centre in Morocco, accounting for more than half of its industrial production. Industries include textiles, electronics, leather works, food canning and the production of beer, spirits and soft drinks. Casablanca-based manufacturing firms produce bus bodies, and assemble freight cars, and mineral and tanker cars. Fishing is also an important industry.

Casablanca is an important financial centre, accounting for more than half of all bank transactions in Morocco. The Casablanca stock market, which was stagnant for many years, has shown renewed activity since 1983. Growth in traded volume in 1990 was 186 per cent over the previous year.

The man-made port of Casablanca, protected from the sea by a breakwater, handles most of the foreign trade in Morocco; in 1992, the city handled 20 million tons of cargo. Despite efforts to diversify the Moroccan port system, the city continues to dominate seaborne trade. Tourism is an important industry in Morocco and Casablanca is one of the major tourist destinations.

INFRASTRUCTURE AND SOCIAL SERVICES

The original Arab town, or old Medina, is located inland from the docks and the harbour. A maze of narrow streets and whitewashed brick and stone houses, it is still enclosed in part by the original rampart walls. In a semicircle outside the walls is the town built by the French. Avenues radiating from Muhammad V Square, near the gateway of the old Medina, are intersected by ring roads that reach to the coast on either side of the harbour. The Muhammad V Square and the United Nations Square are the business and administrative centres of the town, where banks, hotels and large modern shops are located. The Park of the Arab League is located farther south; overlooking the gardens is the Cathedral of Sacre Coeur. West of the park, stretching towards the coast, are the gardens and villas of residential districts, including Anfa. As the chief recreational centre of the country, Casablanca has a number of beaches, parks and promenades along the seafront. Large numbers of poor residents live in shantytowns, known as *bidonvilles*, on the outskirts of the city.

Rapid population growth and migration have severely strained urban facilities, especially housing. This has resulted in a proliferation of slums and shantytowns, which house more than 10 per cent of the population of the city. The Government has tried to deal with the problem by restricting squatting, construction of affordable housing, encouraging the private sector to become involved in housing construction, promoting population dispersal and improving service provision, including drinking water, drainage and electricity. However, demand has been far greater than supply. Contributing to the housing problem is the sharp increase in real estate prices that occurred in 1991, after a period of stagnation during the Gulf War; by mid-year, prices were rising more than 5 per cent per month.

The rapid demographic growth and economic development of Casablanca has also resulted in infrastructure problems and environmental degradation. The 1,000-kilometre long sewerage system, which dates back from the beginning of the twentieth century, has not kept pace with urban and industrial growth. Polluted water has contaminated swimming areas along the coast. Most of the household waste of more than 2,000 tons per day, is dumped in a public landfill located in the suburbs, polluting wells upstream.

Having 40 per cent of all automobiles in the country, Casablanca suffers from air pollution caused by automobile and industrial emissions. Carbon monoxide and nitrogen oxide levels have exceeded admissible limits, as has the concentration of sulfur dioxide from industrial plants. Maritime traffic, untreated sewage discharged into the port basin, and dredging materials are the principal sources of pollution of the port of Casablanca. Exploitation of quarries in outlying areas not only threatens the equilibrium of the countryside, but also the quarrying of building materials releases toxic dust into the atmosphere, endangering vegetation and crops. It also has lowered the water table, which, in turn, has resulted in a lack of water in neighbouring wells.

The strategy to preserve and maintain the environment in Casablanca aims at fighting pollution, expanding infrastructure and improving urban planning. To reduce air pollution, the city is advocating the following: establishment of a control system for vehicle exhausts and industrial waste; creation of additional green spaces in order to promote the dispersion of polluting agents; reduction in the lead level in gasoline; and a review of the choice of modes of motor traction of buses (trolley bus or subway). Plans for the seaport call for periodic checking of water pumped from the docks (and subsequently used for washing fish), and frequent sampling of dredged material to measure contamination levels.

Management of the sewerage system has recently been taken over by the intercommunal Agency for Water and Electrical Distribution. The city is planning a study of the sewage treatment system, including purification and recycling of the treated water. In addition, a study of the treatment and recycling of solid waste is in progress, and the establishment of two controlled public dump sites in the suburbs is planned.

Buses are the principal means of public transportation in Casablanca. An extensive road network exists in Morocco, with Casablanca being well connected to other major cities in the country. A major highway programme, to be completed by the year 2010, is planned for Casablanca; among the five axes included in the plan are El-Jadida-Casablanca-Tangier and Casablanca-Marrakesh.

PLANNING ISSUES

In 1985, in an effort to improve the quality of life in Casablanca over the next two decades, a master plan for urban development outlined the following objectives: rehabilitation of the old town; creation of facilities for water sports to generate tourism; construction of a major convention centre; planning of numerous public facilities on 2,000 hectares, of which 1,000 will be reserved for sports and green spaces; slum improvement; construction of new urban centres that are more accessible to citizens; construction of bus depots; improvement of major urban arteries; construction of underground parking lots and parking garages in the centre of the city; centralization of industrial zones in the suburbs; and the creation of a 12,000-hectare belt around the Casablanca metropolitan area.

COLOMBO
(Sri Lanka)

Colombo, the capital of and the largest urban agglomeration in Sri Lanka, is a coastal city located at the mouth of the Kelani River. About one fourth of the city is marshland that is subject to flooding. Colombo became the capital of Sri Lanka (formerly Ceylon) in 1815, and by 1911 had a population of 211,000. The Colombo Metropolitan Region (CMR), as identified in the Colombo Master Plan Project in the late 1970s, had an area of about 1,800 square kilometres and a population of about 4 million. According to the 1971 census, the urbanized core of the region covered 235 square kilometres and had a population of 1.3 million.

DEMOGRAPHIC CHARACTERISTICS

The central city (Colombo Municipal Council) has grown slowly, from a population of 410,000 in 1950 to 550,000 in 1970. It then grew even more slowly, to 616,000 in 1990. The population of Colombo District grew from 1.5 million in 1971 to 1.7 million in 1981 and to nearly 2 million in 1991. The estimated crude birth and death rates in Colombo were 23 and 9 per 1,000 population, respectively, in 1991. The infant mortality rate is 26 deaths per 1,000 live births, and life expectancy at birth is 63 years, about seven years lower than life expectancy for the country as a whole.

CMR, which includes the entire Colombo District and parts of the surrounding districts, contains half of the 10 largest towns and over two thirds of the total urban population of the city. Compared to the growth of suburban areas, the central city is growing rather slowly. One reason for this pattern of growth is the increasing commuter traffic between the suburban fringe and the business district, which is caused by cheap (though somewhat inefficient) public transport. During the period 1901-1981, population density in Colombo District increased from 334 to 2,605 persons per square kilometre.

ECONOMY

Colombo is the seat of Government and the main financial and commercial centre of Sri Lanka. It has one of the largest artificial harbours in the world. Colombo port handles over 90 per cent of the total exports of the country, which include tea, rubber and coconut. The shift of the administrative capital from the urban core to a suburban location in Sri Jayewardenapura and Kotte, and the attraction of a number of industries to the suburbs have led to some job losses within the central core. The older suburbs have been undergoing a process of transition from dormitory-commuter settlements into employment centres. The Greater Colombo Economic Commission, which was established in 1978 to promote export industries, has further encouraged the movement of industry to the suburbs and outlying areas. Major sources of employment are the Government, the port complex and a variety of industries, including food and tobacco processing and general engineering. Unemployment has been a persistent problem in Colombo, with unemployment rates in excess of 20 per cent in some sections of the city. Despite these problems, during the mid-1980s the core was still attracting more than 550,000 commuters daily.

INFRASTRUCTURE AND SOCIAL SERVICES

Over the years, as the central business district has continued to grow, there has been a shift in residential patterns. Higher income groups have moved farther from the centre, whereas low-income groups increasingly have settled in the central city. Many squatter settlements have also appeared along canals or in marginal lands on the edge of the marshes. In 1980, average household size was estimated at 6.9 persons. Due to a lack of financing and materials, there is a shortage of housing in the city. In 1971, there were 87,000 households and 76,000 housing units in Colombo.

According to recent estimates, within the urban core (Colombo Municipal Council area), approximately half the population live in slums and squatter settlements. The health of residents in these communities is adversely affected by their living conditions. Diarrhoeal and parasitic diseases reflect deficiencies in the water supply; high rates of upper respiratory infection are related to overcrowding and poorly constructed dwellings. Substandard nutrition is more prevalent in areas without garden space. As many as 30 per cent of the infants born in certain areas of the city have low birth weights (less than 2.5 kg), a result of maternal malnutrition and anaemia during pregnancy. The infant mortality rate is higher among low birth-weight babies. In addition, thousands of children die before age 5 because of diarrhoeal dehydration.

In the area of housing, the Government introduced a law in 1973 that was intended to achieve a redistribution of the ownership of the private rental housing stock. It restricted the ownership of housing units to a maximum of two for a married couple, plus one housing unit for each dependent child. Given that private rental housing stocks were concentrated in a few hands, the new legislation brought substantial benefits to the poor who generally were tenants.

Bus service in Colombo used to be provided exclusively by a publicly owned monopoly operated by the Central Transport Board (CTB). The CTB monopoly was removed in 1979, when private operators were allowed to compete. By early 1980s, private operators had captured more than 25 per cent of the market, despite the fact that CTB buses were heavily subsidized. As of mid-1980s, CTB operated some 5,800 buses of 100-120 passenger capacity in the Colombo metropolitan region, while the private sector operated 3,500 smaller buses in the 30-60 passenger range. According to a World Bank assessment, deregulation has had a number of effects, including a substantial increase in capacity, especially at peak periods, more frequent and less crowded buses, and the prospect of a reduced subsidy to CTB as the private sector increases its market share. Traffic on the roads is relatively heavy and, at peak hours, the public transport system is heavily strained. Rail transport plays an important role in mass transit.

The provision of piped water is below current demand. During periods of severe drought, the water supply is cut off for several hours a day in the city. In the rainy season, on the other hand, the city (particularly in low-lying areas) suffers from flooding. The situation is aggravated by the inefficiency of the existing canal network in the discharge of rainwater. According to the 1981 census, 31 per cent of Colombo households had piped inside water and another 20 per cent had piped outside water. About half of the population of the city is served by a waterborne sewerage system. Some solid waste is collected and tipped at selected places where it serves to fill marshy land.

PLANNING ISSUES

In 1940, the Holiday Plan proposed a green belt around the city and the development of a satellite town. In 1950, the Abercrombie Plan stressed decentralization over a large area. These plans, however, have had little impact on the development and growth of Colombo. Urban growth in Sri Lanka has been comparatively slow because large-scale rural-urban migration was substantially reduced by state-sponsored land settlement in the dry zone, which led to significant rural-rural migration. In addition, it has been argued that the Government's welfare policies have tended to reduce urban-rural disparities and thus stem the flow of migrants to the cities.

COPENHAGEN
(Denmark)

Copenhagen

Copenhagen, the capital of and the largest city in Denmark, is located on the islands of Sjaelland and Amager, at the southern tip of the Oresund, the Sound. By the early tenth century, a small village existed on the site of the present city. Copenhagen became the capital of Denmark and the residence of the royal family in 1445. A former trade and shipping centre, Copenhagen is an important industrial city. It is also the financial, cultural and educational centre of the country.

DEMOGRAPHIC CHARACTERISTICS

Copenhagen has always played a dominant role in the demographic development of Denmark. Following the trend experienced by other large Western cities, Copenhagen experienced steady population growth due to migration from rural areas until 1950. Beginning in the mid-1950s, the population of the central city decreased, with suburbanization reaching a peak in the 1960s. Some municipalities in the outer suburbs of Copenhagen saw their populations double during the 1950s and 1960s, while districts which were essentially rural or regarded as remote experienced a decrease in population. The migration turnaround in the early 1970s found rural areas experiencing net migration gains, while the capital region and urban areas of East Jutland lost population.

The Greater Copenhagen region includes the municipalities of Copenhagen and Frederiksberg, and the counties of Copenhagen, Frederiksborg and Roskilde. In the mid-1980s, it was estimated that roughly every third person in Denmark lived in the Greater Copenhagen region, a territory covering only 7 per cent of the total area of Denmark. In 1990, the population of Copenhagen region was 1.7 million, while that of Copenhagen county was 600,889, and Copenhagen municipality was 466,723. The urban agglomeration of Copenhagen had an estimated population of 1.3 million in 1995, with approximately 30 per cent of the urban population of Denmark residing in the region. The population of Copenhagen is expected to remain approximately the same through the year 2010.

ECONOMY

Once a trade and shipping centre, Copenhagen has become an important industrial city, with shipbuilding, production of machinery, canning and brewing among the chief manufacturing activities. In 1989, there were 1,783 industrial establishments in the Copenhagen region, 786 in Copenhagen county and 356 in the municipality of Copenhagen. In 1990, majority of the employed population in Copenhagen county was in social and health services (14.9 per cent), manufacturing (14.2 per cent), financing (13.4 per cent), public services and general administration (9.9 per cent), transport (9.1 per cent) and wholesale trade (8.9 per cent). A total of 7.8 per cent of the labour force in Copenhagen county was unemployed in 1991, as compared to 13.9 per cent for the municipality of Copenhagen and 9.5 per cent for the Copenhagen region.

INFRASTRUCTURE AND SOCIAL SERVICES

Most land in Denmark is privately owned. Thus, if a public agency wishes to erect a public building, construct a road or other public infrastructure, or build a park, the state or local authority must first buy the land or make use of its eminent domain by expropriating the necessary land. This practice is expensive in built-up or centrally located areas. The municipality can prohibit projects that, in its opinion, would threaten the public interest, and can subsequently submit a local plan or other legal procedure defining permitted types of land use and maximum building densities.

The Greater Copenhagen Council is responsible for the management of the public transportation system of the region. It oversees 234 bus lines that are part of a 4,000-kilometre network, and 16 train lines that are part of a 461-kilometre network. Besides the Metropolitan Transit Authority and the Danish State Railways, a number of private haulage contractors and bus companies, as well as private train lines, constitute an integrated public transportation system for the entire region. Coordinated timetables and a uniform pricing system ensure an efficient transportation network that enables passengers to travel inexpensively, and new bus and train terminals provide convenient en route change-overs from one means of transportation to another.

Air traffic is serviced at the airport in Kastrup, south-east of the city. The Copenhagen airport, which is the largest in Scandinavia, and its rail links make the city the transportation hub of Northern Europe. Moreover, Copenhagen harbour, located at the gateway to the Baltic Sea, has become increasingly important as a port of trade since the countries of Eastern Europe gained their independence.

Copenhagen has long utilized waste for landfill purposes, using it to build up areas formerly under water, or to reconstruct excavated areas. Nitrate pollution from the use of fertilizers and seepage from old chemical waste dumps endanger the groundwater supply of the region, posing a serious threat to the environment. The Greater Copenhagen Council, responsible for environmental protection and conservation, has launched comprehensive studies and plans to minimize air and water pollution, preserve plant and animal life, and safeguard cultural and historic artifacts.

PLANNING ISSUES

The "Finger Plan" for the development of Greater Copenhagen was introduced in Denmark in 1947 in order to curb concentric suburban growth, which would have consumed all green areas in the inner part of the metropolitan region, and to avoid excessive urban sprawl over most of North Zealand. The plan called for concentrating future suburban growth along existing and planned radial suburban railway lines, and preserving the wedges between them as agricultural or recreational areas, thus maintaining open land; favouring public transportation over automobiles; decreasing distances between homes, workplaces, schools and shops; and reducing traffic congestion. Subsequent regional plans and their periodic supplements ensured that planning was always based on the current phase of development.

The Greater Copenhagen region is divided into urban and rural zones, with homes, workplaces and civic centres concentrated in the urban zones. There are urban renewal plans to replace and renovate existing buildings and to change the uses in some of the oldest areas of the city. The goal is to maintain the current number of homes in the historic areas of Copenhagen, and to thin out the older, densely built-up, mixed residential and industrial areas, thereby improving the quality of housing and meeting the need for open spaces and community institutions. Businesses whose functions are not connected with the city will be relocated. The Greater Copenhagen Council has placed restrictions on new commercial and industrial building projects in the urban area outside the "five fingers", and vacant industrial and commercial areas are reserved for companies that will provide employment for local residents.

Since the 1980s, the focus of town planning has been on mixed residential, industrial and commercial activities, avoiding suburbs with one-family houses and a lack of daytime activities, as well as manufacturing areas and city centres where offices and stores become deserted after working hours. Many offices have moved to suburban areas and there has been a renewed interest, especially in the city centre, in dwellings for adults. The Port of Copenhagen is on the threshold of becoming transformed from an obsolete harbour and naval port into a multi-functional waterfront, less than 25 per cent of which will be devoted to commercial harbour functions.

A new town named Orestaden, or Sound City, consisting primarily of office space with a small number of dwellings, has been proposed in conjunction with the planned 20-kilometre road and rail bridge between Copenhagen and Malmo in Sweden. This "new town in-town", would stretch from the historical city centre to the road and rail connections with the Sound Bridge; it is designed to attract firms to Copenhagen and to compete with other Western European capitals.

DAKAR
(Senegal)

Dakar, the capital of and the largest city in Senegal, is a port located at the western-most point of Africa. The city was founded in 1857 by the French in order to safeguard the interests of the merchants who had been settling there. In 1904, with a population of 18,000, Dakar was the seat of the Government of French West Africa, but its importance declined after the dismantling of the French colonial empire. Dakar is the most important region of Senegal, accommodating 27 per cent of the total population of the country as of 1985. About 55 per cent of the urban population of Senegal live in the urban agglomeration of Dakar, where majority of the industries of the country are also located. The harbour of Dakar is one of the best in Western Africa.

DEMOGRAPHIC CHARACTERISTICS

The concentration of industry in the Dakar area has accelerated the rate of population growth of the city. The population of the Dakar urban agglomeration grew from 223,000 in 1950 to 1.6 million in 1990 and is expected to increase to 2.4 million by the end of the twentieth century and 3.5 million by the year 2010. The average annual rate of population growth was about 5 per cent during the period 1950-1990; it declined to 4.2 per cent in 1990-1995. During the 1940s, Dakar attracted many migrants from other parts of Africa. Both natural increase (of about 3 per cent per annum) and internal migration has been responsible for this rapid population growth. Data from 1985 indicate a positive net migration flow into Dakar of between 15,000 and 60,000 persons per annum.

Also contributing to population growth in Dakar has been a decade of severe drought, which has limited the cultivation of cash crops, especially cotton and peanuts, in rural areas. Thousands of unemployed agricultural workers have fled the impoverished countryside and sought work in the city. As the drought persisted, temporary migrants lost hope of returning to farming and became permanent city dwellers. These new migrants have strained the capacity of the city to provide basic needs and have created profound inequalities in the areas of housing, health, transportation and employment.

ECONOMY

Dakar is one of the leading industrial and service centres of Africa. About 51 per cent of the gross national product (GNP) of Senegal is produced in Dakar, and the gross domestic product (GDP) per capita of the city is three times higher than the national average. In 1985, food industries, consisting of peanut factories and plants for the treatment and preservation of fish, employed about 26 per cent of the total labour force, while textile industries accounted for another 22 per cent. Other major industrial activities include mechanics and electronics (15 per cent), construction and public works (13 per cent), chemistry (11 per cent), mining (6 per cent), timber industry (5 per cent) and the paper industry (2 per cent). Of the 270 industrial companies registered in the country, about 90 per cent are located in the Dakar metropolitan area. Almost 90 per cent of modern jobs in the country are concentrated in Dakar, which also plays a leading role in international trade. The port and airport facilities of the city are also used by neighbouring countries. Major exports include (agricultural) oil derivatives, calcium phosphates and aluminum. Important imports are foodstuffs and energy products.

INFRASTRUCTURE AND SOCIAL SERVICES

The Government has implemented several policies to address the housing problem. In 1951, Societe immobiliere du Cap-Vert (SICAP) was founded to preside over the process of urban renewal. During the period 1952-1960, in order to eliminate the slums in Dakar, tens of thousands of residents were driven away from the central areas, and 3,603 houses were built by SICAP. In 1973, the Government initiated a scheme which provided members of specific income groups with plots on which they could build housing according to their own preferences. As of 1989, about 11,000 plots were distributed in Dakar, and there was a waiting list of 39,000. In 1979, the Housing Bank of

Senegal was established, providing financial assistance for housing construction. Despite these initiatives, and mainly due to the high cost of building materials, there is a housing crisis in Dakar, with demand far exceeding supply.

Other housing projects have been implemented with funding from such international organizations as the World Bank and the European Fund for Development. Efforts have been made to minimize the social disruption that inevitably takes place when slums are cleared and self-built housing is regularized. Cooperation and the financial participation of residents are sought; in return, they are permitted to remain in place and benefit by receiving clear title to their property.

Dakar has a sewerage system which is accessible only to the population in the urban core. Generally, the most densely populated peripheral areas do not have access to sewerage facilities, creating serious health problems for the population of those areas. The treatment of solid and liquid waste in Dakar is a major problem. According to the Hygiene Department, the elimination of waste water and household and human waste is effective for only about a quarter of the households in Dakar. Similarly, solid waste disposal is inadequate, with the disposal network covering less than half of the urban area. Equipment for the collection of solid waste—much of it a gift from Saudi Arabia—is old and delapidated and lacks the capacity to keep up with the daily production of solid waste.

The main sources of water supply in Dakar include private connections (36,620 in 1980/81), public standpipes (88,726) and water carriers (5,484). High- and middle-income areas have access to private connections, while those in areas without adequate distribution networks and lower income groups use public standpipes. Population growth and continuing drought have aggravated the problem of water supply. In 1989, the estimated shortage was 23,000 cubic metres per day. Water supply problems in Dakar include low productivity, excess demand placed on pipelines and the gap between maximum available production and the average needs of the Dakar area.

With respect to health and education, Dakar is well served compared with the rest of Senegal. In the early 1980s, following a report on the high rates of infant and child mortality in the country, the Government launched a large-scale public health programme to combat the principal childhood diseases and to improve vaccination coverage. The campaign involved using the media to educate the public regarding the benefits of vaccination. Its success has been remarkable: coverage of at least three fourths of two-year-olds has been achieved for tuberculosis, diphtheria, poliomyleitis, measles and yellow fever. However, disparities in the distribution of health-care facilities can also be observed among the various districts of the Dakar Department. For example, about 52 per cent of medical facilities are concentrated in the first district; the third district has 24 per cent; the fourth district has 14 per cent; and the second district has only 8 per cent.

PLANNING ISSUES

Rapid population growth is considered to be a major problem in the planning and management of the city. Particular difficulties are foreseen in supplying adequate water, sanitation, electricity and telephones, and in providing housing, health services, schools and jobs that meet the minimum level necessary for sustained productivity.

Policies for the future place special emphasis on rigorous revenue assessment and collection and balancing the city budget. The Government is concerned with maintaining cleanliness, drainage systems, highway maintenance, and repair and provision of educational, sanitary and sports infrastructure. There is also concern with reducing the imbalance between the urban core of Dakar and traditional villages and towns on the periphery, and with providing water, electricity, highways, education and health services within this periphery. A satellite town, Pekine, located about 8 kilometres outside of Dakar, accommodates 200,000 people. Strict residential zoning laws in Dakar and certain services (such as communal water taps and electricity) attract low-income residents to Pekine, leading to decongestion of the urban core.

DAMASCUS
(Syrian Arab Republic)

Damascus, the capital of and the largest city in the Syrian Arab Republic, is an ancient city dating back to the second millennium B.C. It is believed that, among ancient cities of the world, Damascus is perhaps the oldest city that has been continuously inhabited. As the capital of Aramaeans, Damascus was successively invaded by various forces throughout history, including the Romans, Islamic forces and the Ottoman Turks. Since gaining independence in 1946, political life in the Syrian Arab Republic has revolved around Damascus, attracting many migrants from other parts of the country.

Damascus municipality is administered as a governorate (*mohafazat*). The city is divided into several districts: a central Government district, sanitary residential areas, outlying industrial areas, and a commercial area in the centre of the old city. A green belt, Al Ghuta, surrounds ancient Damascus on all sides, and is watered by the Barada and El A'away rivers, as well as by wells. Over 200,000 people live in the Al Ghuta area, which furnishes the city with fresh fruits and vegetables.

DEMOGRAPHIC CHARACTERISTICS

In 1884, Damascus had a population of 160,000, increasing to about 171,000 by 1922. The 1960 census indicated a population of 552,000 for the city. The population of Damascus urban agglomeration grew from 367,000 million in 1950 to 2.1 million in 1995. The average annual rate of population growth was about 4.6 per cent during the period 1950-1970, decreasing to about 2.7 per cent during 1990-1995. Migration from rural areas has played an important role in the growth of the city. Another source of population growth was the decline in mortality which was made possible by the spread of health-care information and practices. The population density of Damascus Governorate increased from 5,247 per square kilometre in 1960 to 10,593 per square kilometre in 1981.

ECONOMY

Since 1946, Damascus has had increasing economic activity, with the Government being the most important source of employment. Major industries include textiles, chemicals, cement and factories for glass and ceramics. In the public sector, large-scale companies for the manufacture of electronic equipment, refrigerators, small trucks, clothing, foodstuffs and various other goods have been established. Traditional artisan crafts are still practised in the city. In 1984, Damascus Governorate had a population of 719,000 and a labour force of 341,000, about 97 per cent of which were employed.

INFRASTRUCTURE AND SOCIAL SERVICES

Population growth has resulted in the rapid expansion of the Damascus area. Several suburbs have been developed in order to accommodate the growing population of the city. The suburb of al-Mazzah (or "New Damascus"), for example, accommodates about 150,000 inhabitants. The increasing demand for housing areas has led to infringements upon fertile green areas and forests (such as al-Ghuta), threatening them with extinction. Some experts contend that Damascus has expanded to its saturation point and will have great difficulties in absorbing new population or supporting new housing because of limits imposed by its water supply and geographical conditions.

Rapid population growth has strained the city services and health-care facilities. In 1989, there were 482 persons per hospital bed and one physician for every 845 persons in Damascus province. In 1988, the Damascus Governorate had over 3,000 kilometres of roads.

PLANNING ISSUES

The Government is concerned with the continuing in-migration to large urban centres such as Damascus. In order to reduce shortages of essential services (particularly housing) in large cities, the Government has a policy of reducing rural-urban migration through the improvement of public services and living conditions in rural areas. In addition, the authorities have tried to discourage migration to the urban centres by limiting employment opportunities for newcomers. The Government has also tried to reduce the concentration of investment in large urban agglomerations. The Fourth Five-Year Plan of the Syrian Arab Republic had guidelines to the decentralization of industry that is presently concentrated in major metropolitan centres such as Damascus. The Government has also encouraged the conservation of green areas that are threatened by the expansion of the city.

DAR ES SALAAM
(United Republic of Tanzania)

Dar es Salaam

Dar es Salaam is the largest city, industrial centre and major port of the United Republic of Tanzania. Founded in 1862 by the Sultan of Zanzibar, it remained a small port until 1887 when the German East Africa Company established a station there. Dar es Salaam has served as the capital of German East Africa (1891-1916), Tanganyika (1961-1964) and, subsequently, of the United Republic of Tanzania. Since 1974, the Government has had a plan to transfer official functions to the new national capital at Dodoma, a town located near the geographical centre of the country. As of early 1990, however, owing to the greater than anticipated costs of relocation, Dar es Salaam effectively remained the capital of the United Republic of Tanzania, with only two ministries having moved to the new planned capital.

DEMOGRAPHIC CHARACTERISTICS

The population of Dar es Salaam urban agglomeration grew from 78,000 in 1950 to 1.73 million in 1995. The average annual rate of population growth increased from 7.3 per cent during 1950-1965 to 10.3 per cent during 1965-1970, declining to 5.4 per cent during 1975-1990, and to 3.8 per cent during 1990-1995. It is expected that the population of the agglomeration will grow to over 2 million by the end of century. In 1988, the city had an infant mortality rate of 173 per 1,000 live births.

The pattern of population distribution in Dar es Salaam has three major features. First, the major subcentres of the city are separated from each other by great distances. Secondly, the subcentres are located at a distance of more than 10 kilometres from the Central Business District (CBD). Finally, the subcentres are located far from the major industrial zones.

ECONOMY

Local industries in Dar es Salaam produce textiles, food products, metalware, glassware, cigarettes, soap, and paint. The harbour of the city handles most of the agricultural and mineral exports of the country. In 1991, the distribution of employees by industry was as follows: manufacturing, 9.9 per cent; wholesale and retail trade, 24.3 per cent; transportation and communications, 7.7 per cent; Government, 15.5 per cent; and construction, 4.3 per cent. The poor infrastructure and services of Dar es Salaam have discouraged local enterprises from expanding.

INFRASTRUCTURE AND SOCIAL SERVICES

During the 1980s, per capita expenditure on services in Dar es Salaam fell by about 10 per cent per annum, a decline about five times greater than the decline in gross domestic product. As of 1990, the city had serious difficulties in maintaining urban services due to insufficient finances. For example, only one of the city's 15 fire engines was operable; the other 14 were out of service because of a lack of foreign exchange with which to purchase spare parts.

One of the most critical problems of Dar es Salaam is its overcrowded and inadequately serviced housing sector. Currently, there are over 314,000 dwelling units in Dar es Salaam. During the period 1978-1988, approximately 125,700 new dwelling units were constructed in the city. The acute shortage of housing has led to rising prices, making it difficult for low-income groups to obtain appropriate housing. Consequently, many people live in squatter settlements and shanty towns. As of 1992, for example, over 70 per cent of the city population lived in unplanned settlements with limited access to water, sanitation, drainage, roads, electricity and other basic services.

It has been estimated that more than half of the city population are living in unsanitary conditions. About three quarters of the households rely on pit latrines, leading to extensive contamination of groundwater. In 1992, about 15 per cent of the total dwelling units in the city had toilet facilities hooked up to a sewer. Solid waste collection is seriously deficient, with waste accumulating in the streets, and no public waste bins. Due to a lack of appropriate vehicles and inadequate cost-recovery mechanisms, over 90 per cent of the waste of the city remain uncollected. A significant proportion of domestic waste is burnt or buried in private gardens. Much waste, however, including hospital and other hazardous wastes, is dumped on the streets, posing a major health hazard. The limited amount of waste that is collected is disposed of by dumping, polluting nearby residential areas and attracting vermin. The industrial areas also suffer from a lack of sewerage and waste collection services, further adding to contamination of the environment. There is growing concern over the introduction of toxic chemicals and heavy metal contaminants into the food chain.

The supply of water in Dar es Salaam is inadequate and some parts of the city have a perennial water shortage. The daily requirement for water in the city is about 80 million gallons, whereas only about 60 million gallons are available. In 1992, only about 22.6 per cent of the total dwelling units in the city had piped inside water.

The city has a total of 1,146 kilometres of roads, 447 of which are paved. Many of those roads have potholes that contribute to traffic congestion. Bus transport is officially provided by a monopoly franchise called the Usafiri Dar es Salaam Corporation (UDC). Whereas about 100 buses are currently in operation, meeting the needs of riders would require a total of about 800 buses. The shortage of bus transport is currently being partially met by private buses and taxis, some registered and others not. There has been recent discussion of a proposal to introduce commuter railway service between the city centre and Ubungo, a suburb of about 10 kilometres distant, using existing railway lines. Traffic congestion, air pollution and a lack of parking facilities are among the additional problems that the city faces.

PLANNING ISSUES

By the mid-1960s, the national Government was not in favour of rapid urban growth. The Arusha Declaration of 1967, which advocated socialism and self-reliance to aid national development, emphasized a need to inhibit the growth of urban areas and to promote rural development for the production of food and cash crops, both for local consumption and export. A master plan for Dar es Salaam, prepared in 1968, argued that the recent level of population growth was much too rapid. According to the plan, such a high rate of growth would create new squatter settlements and unhealthy living conditions in a city already unable to afford adequate public housing and urban infrastructure. In order to reduce population growth in Dar es Salaam, the plan proposed a number of measures: *(a)* removal of squatters, resettling them away from Dar es Salaam without compensation; *(b)* increasing local taxes to pay for urban services; *(c)* strict control of internal migration through identity cards and repatriation of unemployed migrants; *(d)* development of nearby farming villages; *(e)* dispersal of industries from Dar es Salaam in cases where this was economically feasible; and *(f)* establishment of family planning clinics.

Over the years, the Government has made serious attempts to develop farming villages, disperse industries, establish family planning clinics, remove squatters and control internal migration. Some squatter developments were demolished, although full compensation was paid, in accordance with the law. Increases in local taxes were contemplated but rejected on the grounds of administrative difficulties. Periodically, the police and militia made efforts at rounding up the unemployed, either sending them to their home villages or resettling them in other villages; however, most of them later returned to the city. In 1976, a system of identity cards was introduced and a major attempt was made to resettle the unemployed in villages in the Dar es Salaam region. This effort soon came to an end, however, as the authorities ran out of resources. As part of the national "villagization" programme, Ujamaa villages were established in the Dar es Salaam region and the surrounding coastal region. Serious efforts were made to disperse industries outside Dar es Salaam; after 1967, 81 per cent of new industrial employment was located outside Dar es Salaam. Also, the Government established family planning centres throughout the city. In addition, in 1973, the Government took the step of announcing that by 1983 the functions of the central government would be transferred from Dar es Salaam to Dodoma.

DELHI
(India)

Unlike other large metropolitan cities in India (e.g., Bombay, Calcutta and Madras), which trace their origins to outposts of the British East India Company, Delhi is an ancient city that has been built and rebuilt numerous times. A Hindu city from the middle of the eleventh century to the end of the twelfth century, Delhi alternately prospered and declined during the course of six and a half centuries of Muslim rule.

Delhi entered a long and protracted decline beginning in the eighteenth century. In the mid-nineteenth century, the British colonial authorities enacted a series of measures which, in effect, marked the end of the long period of Moghul rule in India. In a climate of greater political stability, Delhi began to revive in the latter half of the nineteenth century. Trade and commerce expanded, largely as a result of the construction of the Indian railway network, which linked landlocked Delhi to other regions of the country and to various ports. Designated the Imperial Capital of British India in 1912, Delhi reacquired the political function that had fostered the growth of all Delhi residents of the past.

The partition of the Indian subcontinent brought refugee movements on a massive scale, followed by difficult years of adjustment and resettlement. The special rehabilitative measures undertaken by the Government—such as the construction of housing and other facilities—stimulated the economy and provided employment for large numbers of Delhi residents.

DEMOGRAPHIC CHARACTERISTICS

From an urban agglomeration that may have had as many as 2 million inhabitants in the late seventeenth century, Delhi declined steadily both in population and in political and economic power for the next century and a half. From a population of 304,000 in 1921, the Delhi urban agglomeration reached 448,000 in 1931 and 696,000 in 1941, with the rate of population growth increasing from 3.9 per cent per annum during 1921-1931 to 4.5 per cent during 1931-1941.

As a result of the massive influx of refugees and other migrants following partition, the Delhi urban agglomeration grew by 7.5 per cent per annum during 1941-1951 and more than doubled in size—from 696,000 to 1.44 million. Its rate of population growth remained high—slightly over 5 per cent—during 1951-1961, dropped off to 4.5 per cent during 1961-1971 and remained more or less at that level during 1971-1981, when it grew at an average annual rate of 4.7 per cent. The urban population of Delhi increased from 2.36 million in 1961 to 3.65 million in 1971 and to 5.77 million in 1981. The population of the Union Territory of Delhi grew from 6.22 million inhabitants in 1981 to 9.37 million in 1991, an increase of 50.6 per cent. The average annual rate of growth remained stable at 4.7 per cent during the period 1981-1991. The density of the population was 6,319 inhabitants per square kilometre as of 1991. In addition to refugees, migrant labourers from as far east as Bangladesh come for casual work and often settle permanently in Delhi. The population of Delhi is expected to reach 13.5 million by the year 2000.

On the basis of registered births in Delhi, there has been a slight increase in the crude birth rate (from 24-25 per 1,000 in the late 1970s to about 27 per 1,000 since 1980), which probably reflects not only better compliance with registration laws, but also the migration of large numbers of persons in the reproductive ages. The crude death rate has remained nearly constant during the past decade, at a level of 7 per 1,000 population, whereas the infant mortality rate has registered a slight decline—from about 55 per 1,000 live births during the mid-1970s to 48 per 1,000 in 1982. With respect to population structure, as of 1981, 35 per cent of the urban population in the Union Territory of Delhi was under 15 years of age, 62 per cent were in the age group 15-59, and 3 per cent were 60 years or over. The sex ratio was 124 males per 100 females, indicating the presence of significant numbers of male migrants.

ECONOMY

Whereas tertiary activities, especially the public sector and trade and services, constitute the economic base in Delhi, manufacturing has expanded gradually and has become more diversified. Currently, the most important lines of manufacturing are electrical goods and electronic machinery, metal products, rubber, plastic and petroleum products, transport equipment, paper products, machinery and tools, wood and wood products, and basic metals and alloys.

Traditionally, a commercial and bureaucratic city, Delhi has been industrializing gradually in recent decades, although it remains the least industrialized of the four largest metropolitan cities in India. In 1951, only 15 per cent of its labour force were employed in industry. By 1981, 569,000 workers, or about 29 per cent of the labour force, were employed in industry, mainly in small-scale units.

Delhi has a larger proportion of its population dependent on services than other large metropolitan cities in India. Some 420,000 workers, or 21 per cent of the labour force, were employed in trade and commerce as of 1981, mainly in the informal sector. Indeed, of the 183,000 commercial establishments recorded in the 1981 census, 45 per cent were classified as informal-sector activities (i.e., mainly traditional bazaar-type activities). In Delhi, the public sector, which employed more than half a million persons as of 1981 (542,000, or 28 per cent of the labour force), is the largest employer and one of the sectors with the highest rate of growth (4.6 per cent per annum during 1961-1981).

INFRASTRUCTURE AND SOCIAL SERVICES

Delhi is in a unique position among Indian cities with respect to land. In the late 1930s, some 10,500 hectares of government land were given to the Delhi Improvement Trust by the colonial authorities. Following independence, in order to facilitate implementation of the Master Plan, the Government of India approved the Scheme for the Large-scale Acquisition, Development and Disposal of Land in Delhi (1961), and designated the Delhi Development Authority (DDA) as the chief developer; as of 1983, DDA had developed some 18,200 hectares of land for residential, commercial and recreational uses.

Beginning in the 1950s, DDA began constructing resettlement colonies to accommodate the massive influx of refugees after partition. Since that time, DDA has resettled more than 1 million persons, in what it terms as the world's largest resettlement programme. In the mid-1980s, in response to public pressure, DDA announced that it would upgrade services in some of the oldest refugee colonies, which were built at lower standards than those subsequently set forth in the 1962 Master Plan. Since 1972, DDA has also been implementing a large-scale slum improvement programme. During 1984-1985, some 200,000 residents of notified slums (i.e., slums that will be eventually granted tenure) benefited from the provision of new facilities, such as water supply, sewers, storm water drains, community baths and latrines, multi-purpose community halls and street lighting, as well as the widening and paving of lanes.

The supply of raw water in Delhi cannot meet current demand, which is higher than in other metropolitan cities in India because of the large population of embassy personnel and tourists. Moreover, the water supply is unevenly distributed. The large part of the population living in resettlement colonies and unauthorized colonies as well as in new housing developments on the periphery has limited access to treated water and must frequently resort to the use of unsafe ground water. Moreover, even in an area where the basic infrastructure is in place—e.g., in the walled city—one fourth of houses do not have municipal water supply connections.

Of the total population of Delhi, 70 per cent do not have access to water-borne sewerage. The proportion is nearly 100 per cent in the unauthorized colonies and in many of the resettlement colonies and the new planning divisions, and is as high as 50 per cent in the walled city. Currently, of the 242 million litres of liquid waste that is generated daily, only 46 million litres receive full treatment and 72 million litres receive partial treatment before entering the Yamuna River. By the end of the twentieth century, Delhi is planned to have a sewerage treatment capacity of 700 million litres per day—six times the current capacity. Delhi also has a problem with solid waste. The current method of disposing of waste in sanitary landfills may not be capable of dealing with the large projected increase in solid waste. Planners therefore envisage establishing new treatment sites on the periphery as well as within the urban area.

The Yamuna River has a high level of water pollution resulting mainly from untreated sewage and waste from industrial areas. Average air quality in Delhi is also very poor as a result of pollution from engineering, textile and chemical industries, thermal power plants and automobile emissions. Beyond requesting manufacturers to comply with environmental legislation and establishing a network of air quality monitoring systems, the major effort of DDA to improve the environment is its revised zoning restrictions, which will prohibit polluting industries from operating in residential areas.

Five railway lines and nine roads, five of which are national highways, converge in Delhi. Delhi has over 500,000 motorized vehicles, which accounts for 20 per cent of all the motorized vehicles in the country and the largest number of any city in India, both in per capita and absolute terms. Bus transportation is the most important transportation mode, accounting for more than half of daily trips, followed by bicycles (22 per cent), scooters and motorcycles (10 per cent) and private automobiles (4 per cent). Other major forms of transportation—scooter rickshaws, taxis and rail transportation—each accounts for only 1-2 per cent of total daily trips. Given the high cost of energy, planners in Delhi hope to rationalize the bus transportation network and to promote the greater use of bicycles, which, along with walking, are the chief transportation mode of the lowest income groups.

To date, transportation planning in Delhi focused on closing the gap between supply and demand by increasing the capacity of the urban transportation system, especially roads for automobile traffic. However, city officials now realize that other pressing transportation problems, including those related to the public mass transit system, bicycle use and pedestrian traffic, must also be addressed. The Master Plan for Delhi Perspective—2001 calls for the establishment of a reliable, efficient and attractive multi-modal public transportation system which would provide safe pedestrian movement, safe conditions for bicycle use, and less congested flows of vehicular traffic.

In the long term, transportation planners in Delhi hope to minimize commuting (there are currently from 700,000 to 800,000 daily commuters) by creating employment near residential complexes in dispersed locations. In the medium term, the Government intends to restructure the regional transportation network so as to cope with demand, reduce congestion and minimize transit time, and to promote its decentralization strategy. In deciding to develop a multimodal transportation system, the municipal authorities rejected the idea of building a high speed metro—which could possibly reinforce centralization—in favour of electrifying the existing ring railway. To date, however, the performance of the ring railway has been disappointing, and passenger movement actually has declined.

Public buses are inexpensive, but dirty, overcrowded, slow, driven recklessly and unsafe for women. As a result, more Delhi residents have been purchasing cars and scooters; the number of motor vehicles increased dramatically from 200,000 in 1971 to approximately 2.2 million in 1993 (more than the combined vehicle totals in Bombay, Calcutta and Madras), with some 130,000 new vehicles being added each year. The city is ill-equipped to handle the volume of traffic. Two ring roads that were intended to solve the traffic problem only add to the congestion at intersections; transit police are under-equipped and often tied up with other important duties; traffic lights still run on time switches, independently. The number of traffic accidents has risen to almost 2,000 per annum, the highest rate of road accidents in the world. Moreover, the increase in vehicular traffic has resulted in an increase in air pollution; motor vehicles account for 60 per cent of the 900 tons of pollutants discharged into the atmosphere each day. In fact, the levels of carbon monoxide and suspended hydrocarbons are so high that Delhi ranks as one of the world's most polluted cities, forcing traffic police to use gas masks at the busiest intersections. Traffic in Delhi is also unique in that it comprises some 48 different varieties of road-users listed in the regulations. These include cars, buses, trucks, motor and push bikes, motorcycle-rickshaws, as well as livestock in and out of harness including pony traps, bullock carts, camel carts and elephants.

PLANNING ISSUES

In Delhi, the first post-Independence planning exercise was the Master Plan for Delhi (1962), which aimed at alleviating congestion in central Delhi and preserving the historical character of the walled city by developing a network of 11 district and subdistrict centres—each with a catchment population of from 250,000 to 400,000 inhabitants. This was to be accomplished by restricting employment in the central city, channelling some government employment to the district centres and implementing various land-use controls. The Master Plan also proposed locating some offices of the central government outside the Union Territory in the surrounding towns.

The Municipal Corporation of Delhi was established in 1958 and is governed by the Municipal Corporation Act which delineates the powers of the commissioner of the Corporation and provides for a number of statutory committees dealing with specific matters such as education, electricity, water supply and sewage disposal. The functions of the Municipal Corporation were decentralized in 1962, enabling regional offices to perform delegated functions. The significant increase in the population since the establishment of the Corporation, as well as the spatial expansion of the city, necessitated a review of the existing administrative structure. A 1987 Government study, which examined the structure of the Municipal Corporation, recommended the abolishment of the present monolithic body and the establishment of separate compact municipal authorities to be regulated by a single Parliamentary Law. It further recommended that functions of the Corporation should be restricted to traditional functions of a municipal body and that functions such as the generation and distribution of electricity, water supply and sewage, fire protection and hospitals should no longer be the responsibility of the Corporation.

The idea for the establishment of a National Capital Region emerged during the early 1960s and crystallized 10 years later, with the drafting of the National Capital Region Plan in 1973. Basically, the plan aimed at promoting the balanced development of the National Capital Region—an area of 30,000 square kilometres which included the Union Territory of Delhi, two districts of Haryana and parts of Rajasthan—by dispersing economic activity to self-contained regional towns and by improving the regional transportation network.

In the more than 20 years since the Master Plan was issued, only three of the 11 original district centres have been developed. Employment has become more rather than less concentrated in the central core. A majority of industries established during the past two decades are located in non-conforming areas, while more than 600 squatter settlements have grown up in and around the city, mainly on private land. As for the fate of the National Capital Region Plan, while it was approved at both the state and federal levels, it did not obtain sufficient legal backing and was never implemented.

The revised Master Plan for Delhi (1986), which was prepared within the framework of a new National Capital Region Plan, aims at maintaining the image of Delhi as capital of the country and as a "focus of the developing world", conserving the heritage of the city, providing housing and services for a large and rapidly growing urban population and particularly for the urban poor, and promoting economic development by means of physical development. The plan envisages providing services for an additional 3,000,000 inhabitants by the end of the twentieth century, mainly by modifying urban land uses, restructuring the transportation and utility networks and developing urban extensions. It aims at restricting certain types of employment and decentralizing economic activities that are strong employment generators, yet neither directly serve the needs of Delhi nor are crucial to its functioning as national capital. These include some government and public-sector jobs, a large segment of the wholesale trade of the city, and non-essential commercial activities such as warehousing and storage. Finally, as a means of stimulating employment and increasing the coverage of basic services, the plan proposes to promote subcentring within the urbanized area (e.g., through the development of district and subdistrict centres, decentralized shopping-cum-commercial complexes, and regional wholesale markets).

Anticipating some of the obstacles to implementation of this strategy, there has been little enthusiasm to date for decentralizing public-sector jobs. Whereas the Master Plan anticipated that many governmental agencies would be relocated in peripheral areas during the past decades, this did not occur. In fact, many more offices moved into central Delhi in the intervening years, often in contravention of zoning laws. Clearly, any large-scale shift of government offices will require significant political will. Another obstacle has been the lack of a legal and institutional framework and a unified database for the planned National Capital Region. Still another is the fact that many of the outlying urban centres in the planned National Capital Region have been growing very rapidly and have serious infrastructure lags that will make it difficult for them to absorb new migrants.

The Master Plan for Delhi was extensively modified on the basis of planning studies, as well as the experience of plan implementation of the past two decades. The modified document, known as the Master Plan for Delhi Perspective, 2001, strives for a balance between the spatial allocations for housing, employment, social infrastructure, shopping centres, public and individual transport and adequate arrangements which would accommodate the physical infrastructure and public utility systems. The Plan, which includes a set of coordinated policies that cover all aspects of the development of the city, has the following objectives:

(a) Delhi is to be planned as an integral part of a region. This stems from the belief that many of the problems of Delhi and hence, their solutions, originate outside the immediate Delhi territory area;

(b) An ecological balance is to be maintained. The ridge, which is the rocky outcrop of the Aravalli Hills and the Yamuna River, should be left intact in its natural state, and the Yamuna River should be kept free of pollution. Furthermore, any recreational areas built on the river banks should be integrated with other urban developments to make the river a visually and physically integral part of the city;

(c) The central city area is to be treated as a special area;

(d) The urban heritage of Delhi is to be preserved. Since Delhi is a historical city, modernization should be accompanied by conservation, especially in the case of old historic areas;

(e) The city centre should be decentralized;

(f) The mass transit system is to be multi-model;

(g) Urban development is to be "low rise, high density". The existing transportation system and the physical infrastructure of the city should be restructured to accommodate up to 3 million inhabitants by the year 2001; and

(h) Urban development is to be hierarchical, with nuclei containing essential facilities and services at the different levels of the urban hierarchy.

DHAKA
(Bangladesh)

Dhaka, the capital of Bangladesh, was founded in 1608 as the Seat of the Imperial Moghul Viceroys of Bengal. The origins of the city can be traced to the first millennium BC., but little is known of its pre-Moghul history. Strategically located on a major trade route between India and the East, and with a direct water link to the Bay of Bengal, Dhaka developed as an important trading centre during the sixteenth and the seventeenth century. Dhaka and its surrounding regions came under British rule in 1674. With the partition of the Indian subcontinent in 1947, East Bengal, including Dhaka and its hinterland, became part of Pakistan. In 1971, after a nine-month long war of liberation, the eastern part of Pakistan emerged as the independent nation of Bangladesh.

Demographic characteristics

Dhaka is located in one of the largest and most densely populated countries in the world. The population of Dhaka City in 1901 was approximately 129,000, while the population of the larger Dhaka District was 2.6 million. By 1951, the population of Dhaka City was 336,000, while that of Dhaka District was 4.1 million. In 1988, the population of Dhaka District was 12.4 million, with a density of 1,657 persons per square kilometre.

The growth of Dhaka City has largely been the result of net migration, which accounted for 70.5 per cent of the population growth between 1974 and 1981. Although the relative importance of migration to population growth is expected to decline in the future, it is estimated that roughly 60 per cent of the growth of Dhaka between 1981 and the year 2000 will continue to be the result of net migration. Rural migrants—fleeing overpopulation, floods and natural disasters, erosion, growing landlessness and exploitation by the rural elite and money lenders in rural areas—remain attracted by the employment opportunities and relief activities sponsored by various organizations in the urban areas. Despite the tremendous growth of Dhaka, the population of Bangladesh continues to remain predominantly rural, with only 22 per cent classified as urban in the 1991 census.

Economy

Dhaka was once an important trading centre with a flourishing local industry that included handloom operations which supplied fine silks and cottons to European markets. However, nearly 200 years of British rule found Dhaka and its surrounding region gradually transformed into an agricultural hinterland which supplied cheap raw materials. The partition of the Indian subcontinent in 1947 and the subsequent separation of East Bengal from Calcutta resulted in the disruption of the established trading patterns of the region. Hence, when Dhaka and its hinterland became part of Pakistan, it was essentially an agrarian-based society. Although self-sufficient in rice and a producer of 80 per cent of the world's jute, the area had a very small industrial sector and few commercial operations.

During the years between partition and independence in 1971, Dhaka began to industrialize gradually, establishing jute mills, textile mills and fertilizer factories. When Bangladesh emerged as a nation independent of Pakistan, it was faced with severe economic difficulties, including a crippled railway system, blocked ports, disrupted power and communications networks, a decline in the output of its chief crops, a shortage of foodstuffs and sharply rising prices. In fact, manufacturing output in the Dhaka area was so seriously disrupted that it did not return to pre-1971 levels until the late 1970s.

Presently, jute processing remains the largest industry in Bangladesh, still accounting for about one third of manufacturing jobs. The jute processing industry is centred in Dhaka. The garment industry, which currently employs nearly 800,000 women, also has many factories in Dhaka. The manufacture of cotton textiles has evolved into an increasingly important export-oriented industry and has emerged as the single largest source of foreign exchange in the country. It has been so successful that some importing countries have enacted protectionist measures to restrict the level of imports from Bangladesh.

Dhaka accounts for nearly 50 per cent of the total formal sector manufacturing employment of the country. In some smaller industries, the city completely dominates the total production of the country. For example, Dhaka accounts for nearly 100 per cent of total jobs in rubber production, 97 per cent in furniture manufacture, 96 per cent in publishing, 84 per cent in footwear production, 82 per cent in leather goods and 72 per cent in electrical machinery.

INFRASTRUCTURE AND SOCIAL SERVICES

Although Dhaka receives a disproportionate share of national public investment and higher central Government grants per capita, from 55 to 60 per cent of the national physical planning and housing allocation and higher subsidies for food, industrial establishments and public utilities, the city remains beset by serious problems. They include: scarcity of land that is not in flood zones; severe housing shortage; drainage problems; inadequate water supply system, particularly in low-income areas; insufficient energy supply; high incidence of respiratory, diarrhoeal and skin diseases, measles and malnutrition; and inadequate health care.

Located in a low-lying delta area and bounded on the east, south and west by flood plains, Dhaka is plagued by flood waters which cause property damage, interfere with commercial activity and aggravate health and sanitation problems. With most of the land above the flood line already in urban use or of high agricultural value, there are competing demands for the scarce supply of land that is not subject to flooding. Speculation in land and scarcity of suitable sites have driven up land prices; these factors, along with limited resources and high standards of construction, have led to a severe housing shortage in Dhaka. There is little outright squatting in the city due to the high price of land, but many slums are located in the fringe areas, typically on land that is unsuitable for housing. For example, slum dwellings can be found in such low-lying areas as ditch embankments and on the edges of lakes, rivers, sewage canals and railway tracks. The adverse surroundings, coupled with highly dense slum population, give rise to a myriad of social, health and environmental problems.

As a result of inadequate water supply, many of the poorest Dhaka residents continue to use polluted surface water. The water supply system of the city not only cannot keep up with the demands of a growing urban population, but is plagued by system losses incurred from lack of funds to repair and maintain the system. Illegal hook-ups also compound the problem. By 1990, the water-borne sewage system served less than 40 per cent of the population of Dhaka City. Drainage is one of the most severe problems in Dhaka, with flood waters causing heavy financial losses during the rainy season. While the city is capable of natural drainage, the widespread encroachment by slums and commercial buildings clogs the natural water courses and causes drainage problems. The energy supply system in Dhaka City has not been able to fully meet demands, particularly for industrial and commercial customers. This is due mostly to systems losses resulting from illegal power connections.

The transportation system in Dhaka consists of public and private bus and coach services which connect the capital with major cities and towns in the country; and steamers, motor launches and other river craft that connect Dhaka with the other important centres in Bangladesh. However, many Dhaka residents find it difficult to afford public transport and often travel to work on foot. Those who are able to pay a minimal amount use the tricycle rickshaw system of the city, which provides affordable transportation for the masses. Old Dhaka, the historic urban core of Dhaka City, suffers from severe traffic congestion, as rickshaws, bicycles, bullock carts, push carts and other slow-moving vehicles all converge on its narrow and crowded streets. Traffic accidents are still common in the city. Traffic conditions improve outside Old Dhaka and the road network outside the city has been considerably improved.

The population of Dhaka suffers from high incidence of respiratory, diarrhoeal and skin diseases. More than 85 per cent of the population suffer from mild to acute malnutrition. Health-care facilities, such as dispensaries, are often bypassed, being perceived as providing inadequate care and many people go directly to one of the overburdened city general hospitals. Many of the urban poor receive inadequate medical attention or visit indigenous physicians, while pregnant women often go to untrained midwives.

Family planning has received high priority in Dhaka, as it has in other parts of Bangladesh, with various health-care centres performing a variety of clinical procedures and distributing contraceptives free of charge. About one third of of the population of Dhaka is estimated to be living in slums, but until recently, little was known about the reproductive behaviour and family planning needs of women in urban slums. In 1990, an urban surveillance survey collected data about contraceptive knowledge and use among women in a sample of slum communities in Dhaka. The survey found that knowledge of contraceptive methods among ever-married women was almost universal. About 95 per cent had heard of at least four modern methods and 63 per cent had used contraception.

PLANNING ISSUES

The Government has responded to excessive urban growth, particularly in Dhaka, by giving preferential treatment to industries located outside the capital: specifically, a discretionary reduction in import duties on capital goods of from 50 per cent or more to 15 per cent in Dhaka and the next largest urban centres in Chittagong and Khulna, and to 2.5 per cent elsewhere; a nine-year exemption from company taxes, as opposed to a five-year exemption in the three major urban areas; and preference in long-term capital financing to firms located in areas outside the major cities.

The major spatial development strategy in Bangladesh, the *thana* (subdistrict) decentralization programme, which transferred a wide variety of administrative functions from higher levels of government to more than 464 subdistricts, was abolished in 1990 on the grounds that the system was undemocratic. A commission has proposed a new system of local government administration. Task Forces were also formed to review the various socio-economic and infrastructural developmental issues facing Bangladesh. The Task Force on Urbanization presented strategies for urbanization and urban development which focused on four key areas: *(a)* a spatially balanced National Urban System that would encourage the growth and development of medium-sized cities, making them attractive to industry and rural residents, and would improve the transportation and communication systems connecting the settlements; *(b)* urban planning and management that would include the preparation of master plans for all major cities and towns and would formulate land and housing policies; *(c)* alleviation of urban poverty; and *(d)* maintenance of the present growth trend in Dhaka by adherence to the preceding three recommendations, by refusing permits for new large industries within 90 square miles of the central city, by expansion of existing satellite towns and the creation of new ones, and by improvement of transportation between the central city and satellite towns and rural settlements.

GUADALAJARA
(Mexico)

Guadalajara

Guadalajara is the capital of the Mexican State of Jalisco (located west-north-west of Mexico City). The town was founded in 1542 in the Atemajac Valley on the banks of the San Juan de Dios River. High population growth rates have made Guadalajara the second largest city in Mexico since the 1870s. Currently, the metropolitan area of Guadalajara includes three small municipalities (Zapopan, Tlaquepaque and Tonalá) and some neighbouring smaller urban centres.

DEMOGRAPHIC CHARACTERISTICS

Guadalajara has experienced steady population growth since its inception, with population growth rates that were relatively low between 1800 and 1940, and higher thereafter. Population growth has been a result of three factors: natural increase, urban migration and extension of the geographical boundaries of the city by incorporation of new population centres.

The first official census in 1784 enumerated a population of 22,163. With the War of Independence in 1810, the city population began to increase rapidly, reaching 45,500 in 1838 and 75,000 in 1857. The revolutionary struggle of 1910 led to a new wave of migration. The growth of the Mexican economy after 1940 had a multiplying effect on the growth of the city; by 1940 Guadalajara was growing rapidly and expanding its territory in all directions. Between 1940 and 1950, the population of the city grew by 64.5 per cent. Between 1950 and 1960 it nearly doubled, experiencing a 95.4 per cent increase. The urban agglomeration increased from 400,000 inhabitants in 1950 to 880,000 in 1960, and by the end of the 1960s, the urban extension of Guadalajara had reached the outskirts of the municipalities of Zapopan and Tlaquepaque.

In 1970, average annual rate of population increase in Guadalajara was 7.8 per cent—2.9 per cent due to natural increase and 5.0 per cent as a result of in-migration. The population of the municipality of Guadalajara increased from 1.2 million in 1970 to 1.93 million in 1986, extending over a territory of 187.9 square kilometres. In 1986, Zapopan had a population of 580,000, Tlaquepaque had 248,700, and Tonalá had 92,900. The metropolitan area as a whole increased from 1.5 million in 1970 to 2.3 million in 1980, and to 3.2 million in 1995. As of 1986, the metropolitan area of Guadalajara contained more than 50 per cent of the population of Jalisco State and 70 per cent of its economic activities.

ECONOMY

Guadalajara is the centre of a rich agricultural and industrial area. Although the contemporary urban economy is still dominated by commerce and services, there is a trend towards monopolization in commerce as well as growing importance of small and medium-sized manufacturing industries, which experienced significant growth over the past two decades. There is no heavy industry, however, in Guadalajara. Besides being an important mining centre, the area produces chemicals, footwear and textiles, and is also noted for its pottery. An important university centre, the city is the seat of the second largest public university in Mexico—the University of Guadalajara—founded in 1792. Another important economic sector is tourism. Unemployment in Guadalajara is a major problem.

The municipality of Zapopan is primarily an agricultural centre specializing in the production of corn. Zapopan experienced considerable expansion in its secondary and tertiary sectors over the past decade. The city is an important Catholic sanctuary that attracts millions of worshippers annually. It is also the seat of the most important private university in the country—the Universidad Autonoma de Guadalajara. Tlaquepaque is a pottery centre of national reknown, significant for its tourism and expanding industries, while Tonalá is a pottery and manufacturing centre with a strong agricultural base.

INFRASTRUCTURE AND SOCIAL SERVICES

Large flows of migrants from the rest of Jalisco have resulted in the formation of legal and illegal fringe settlements that have become a complex social and urban problem. As commercial and industrial development have led to climbing urban land values, the resulting housing shortage has forced many families to either build settlements that lack basic utilities, or to settle in high-density areas. According to official statistics, some 500,000 residents of the metropolitan area lived in squatter settlements as of 1986. In order to alleviate the housing shortage, a public housing project was begun in Libertad in the 1970s. The new housing units, however, were too far removed from the downtown centre and from sources of employment, and were located in an area that was poorly served by public transportation. Moreover, the units turned out to be quite expensive for the urban poor. A new housing project called "Proyecto Sur", was begun in the 1980s. It was designed to create a new working class public housing development just south of the industrial zone, thereby eliminating the problem of commuting. The project, which is expected to shelter 110,000 residents in 20,000 housing units, includes green spaces and recreational areas.

Since the majority of the working class resides in the eastern and north-eastern sections of Guadalajara, while new industry is concentrated in the southern and southwestern zones, the necessity of commuting has increased congestion in the central city and underscored the need for public transportation. Moreover, the high cost of automobile ownership has forced most commuters to rely on public transportation. Some 84 per cent of bus lines pass through the city centre, producing traffic congestion and pollution. To solve the problem of traffic congestion and to provide easier access from working class districts to the industrial zone, in the 1970s the authorities decided to construct a subterranean rapid transit system with three routes: north-south (west of the civic centre), east-west, and north-east/south-west. However, construction of the north-east/south-west line, which was to link the residential working class districts to the industrial zone, was scheduled last, while the north-south line, serving mainly the middle class residential areas, was almost completed by 1975. The subterranean system has been paralleled by an improved highway system and a rapid surface transport system in the metropolitan area; the highway on the peripheral ring has been completed as well as the Federalismo-Colon north-south axis that will connect the north peripheral ring with the south peripheral ring.

A project has been planned to relieve chronic flooding of city streets during seasonally heavy rains by means of a north-south underground tunnel constructed to collect drainage and sewage. Measures that have been taken to combat air pollution include the permanent or temporary closure of factories, a change in the production processes of factories, reforestation campaigns and the rehabilitation of green areas.

PLANNING ISSUES

Given the availability of land (albeit at high prices), the city of Guadalajara has developed outwardly in a radial fashion, giving it an appearance of a "horizontal city". Guadalajara is divided into four quadrants or sectors: Libertad on the north-east, Reforma on the south-east, Juarez in the south-west and Hidalgo in the north-west. The majority of the population (60-70 per cent) of the city, and especially the poorest stratum, is concentrated in the two eastern sectors, particularly in the north-eastern (Libertad) sector. Both Reforma and Libertad (especially the latter), are zones of heavy inmigration and high residential density. The two western quadrants are more affluent and less populous; Hidalgo contains a large percentage of luxury housing, whereas Juarez constitutes the industrial zone. The greatest uncontrolled urban growth has been occurring in Libertad, where the population is crowded into multifamily rental units designed for single family occupancy, or in self-constructed multiple dwellings located on a single lot.

Several plans have been developed for the future of the city; federal, state and municipal authorities are coordinating their efforts to restore order and harmony to the growth of the Guadalajara Metropolitan Area. However, financial resources have been reduced, causing changes in the plans or delays in some programmes. One plan called for the creation of five suburban nuclei within the metropolitan area, extending the perimeter of the present city outward in a relatively equidistant fashion. However, this plan faced a number of practical difficulties, including a lack of urban services and employment opportunities which prevented the new zones in the eastern sector from functioning autonomously. The current zoning plan for the urban area has established norms to consolidate the expansion of the metropolis in an orderly and structured manner, and has determined the future uses of the different geographical areas (industrial, green areas etc.). It is supported by the Jalisco Plan which sets specific objectives, such as redensification of urban activities within the metropolitan area.

GUATEMALA CITY
(Guatemala)

Guatemala City

Guatemala City was founded in 1776 to succeed previous capitals in the same area which had been destroyed by flood and earthquakes. The modern city was rebuilt after the earthquakes of 1917-1918. Guatemala City is situated at an altitude of approximately 1,530 metres and is the centre of a fertile agricultural region. It has several colleges including San Carlos University of Guatemala, founded in 1676.

DEMOGRAPHIC CHARACTERISTICS

Guatemala City has been the largest urban centre in Guatemala since the nineteenth century and its steady growth reflected its attraction for internal migration. In 1821, the year in which Guatemala obtained its independence, the capital had 40,000 inhabitants; by 1900, the population of Guatemala City had more than doubled, reaching 100,000. Substantial expansion of the city began in 1944, when its development as both an industrial and institutional centre spurred migration from the interior of the country. According to the United Nations *1994 Revision*, the population of Guatemala City—defined as the city proper—increased from 428,000 in 1950, top 592,000 in 1965, and to 946,000 in 1995, and is projected to reach 1.6 million by the year 2010.

Beginning in the 1970s, the primacy of Guatemala City began to decline while growth took place primarily in the conurbaations of Mizco and, to a lesser extent, in Villa Nueva. Both these municipalities experienced large population increases during the period 1964-1973. the conurbation of Guatemala City, Mizco, and Villa Nueva has been administratively defined by the Government of Guatemala as the metropolitan area of Guatemala City. The area is the only metropolitan area in the country attracting increasing numbers of migrants. The proliferation of *minifundios* (non-viable farming units) in rural areas, the shortage of jobs in the interior, and wide income gaps between rural areas and the capital served to increase rural outmigration; the process was accelerated by the earthquake of 1976 and political violence in the rural areas in the interior of the country. As a result, the population of the metropolitan area was estimated by the statistical office of the country at 1.5 million in 1987.

The growth of the city is also due to natural increase; although Guatemala City exhibits significant differences with respect to the remainder of the country, mortality rates began to decline fairly recently, while fertility rates remain high. According to the Demographic and Health Survey of 1987, the total fertility rate for the Department of Guatemala was 4.0 children per woman, compared to 5.6 children per woman for the entire country. The percentage of currently married women using some form of contraception was 23.2 per cent for the country as a whole and 45 per cent for the Department of Guatemala.

ECONOMY

The process of industrialization, accompanied by the development of communications with the interior of the country and the modernization of the transportation sector, began with the revolution of 1944. During the 1960s, the country experienced further economic development which was hampered, however, by the recession that occurred between 1980 and 1987. The economic crisis deepened as a result of the *coups d'etat* of 1982 and 1983. During the 1980s, the rise in inflation and unemployment drove a large segment of society into poverty and compounded a number of social problems. In 1986, it was estimated that 33 per cent of the employed population in the metropolitan area were in the informal sector, while 63.5 per cent of households lived in poverty (36.4 per cent in extreme poverty).

INFRASTRUCTURE AND SOCIAL SERVICES

As a result of rapid population growth after 1944, residential patterns in Guatemala City changed significantly. The upper class left the historic city centre and established residential districts in the south-east, to be replaced by poorer households. By the 1970s, the city centre was no longer the primary area of population concentration, as the city spread outward with both areas of precarious settlements and middle class districts. As a result, the new centre of the city moved south of the historical part. During the 1980s, new lower and middle-income districts were established in the north-west (forming a conurbation with Mizco), in the south-west, and especially in the north-east, an area of significant population growth.

The financial resources of the Municipality of Guatemala City are inadequate to face the growing demand for services and infrastructure generated by accelerated urban development. Unemployment and low incomes further complicate the problem. As a result, there are sharp contrasts in the level and quality of services, with a central zone that has relatively adequate services, and peripheral areas with rapid growth and high densities which lack satisfactory services and adequate housing. Although power distribution is well developed, the newly established areas towards the north-east suffer from a lack of adequate services. The city also has an inadequate public transportation network and sanitation system. While almost three quarters of housing units have access to water, inadequate water supply remains a problem in many areas. Drainage is also a major problem, especially in the peripheral areas. Environmental pollution, mainly resulting from automobile emissions, is also significant. In 1987, Metropolitan Guatemala City was reported to have approximately 60 per cent of all vehicles in the country.

Municipal activity during the 1980s was hampered by the political situation in the country and by the lack of external financial support; however, following the elections of 1985, external financing resumed, enabling the continuation of various urban programmes. The current administration is involved in the Programma de Trabajo Voluntario, a project whereby citizens undertake community work in the more economically disadvantaged districts in exchange for food.

PLANNING ISSUES

Urban development policy based on regional decentralization delineated in the National Development Plan of 1984-1985 proposed to encourage the localization of import-substitution industries in the *subsistema central* cities (Guatemala City, Antigua, Chimaltenango and Escuintla) and of Quezaltenango and Coban, through the use of economic incentives and infrastructure. The plan also aimed at decentralizing industrial activities in the Metropolitan Area of Guatemala City by promoting the development of agro-industrial complexes in the interior and by supporting small businesses and craft industries in rural areas. These objectives were expanded in the Guatemala 2000 national plan, which aimed at achieving integrated regional development by improving the urban network and promoting the development of other urban centres, while regulating the development of the Metropolitan Area of Guatemala City and supporting the decentralization of socio-economic activities from the capital.

The action plan for the municipality included four main objectives: an administrative and financial restructuring of the municipality; an investment plan to meet the basic needs of the districts, with priority given to circulation and public transportation; enhancement of cultural and basic public services; and a plan for metropolitan development. The plan for metropolitan development, known as Esquema Director de Ordenamiento Metropolitano (EDOM), identified the following main problems in Guatemala City: disorganized and extensive growth of the periphery resulting in rising prices and deficiencies in public services; absence of a structured transportation system; and proliferation of unhealthy areas which presented serious risks of environmental contamination. The following policy areas were outlined: regulation of urban land use; organization of the communications system (road circulation and public transportation); efficient utilization of public funds to satisfy the basic needs of the population; integration of the various programmes; and establishment of a coordinating unit for all institutions that have investments in the metropolitan area.

HAMBURG
(Germany)

Hamburg is the largest port in Germany. It is situated some 100 kilometres from the North Sea on the River Elbe, which is wide and deep enough to permit shipping of goods from long distance into the interior of the country. Hamburg is both a city republic and a federal state. Its emergence as a port dates back to the early Middle Ages, when its first harbour was constructed. In 1842, a fire destroyed about one third of the walled-in area and, subsequently, a linear block-oriented street network was chosen for reconstruction. Since the nineteenth century, the growth of Hamburg has been limited by its historical boundaries and topography, and by the formerly independent towns in its environs. During the Second World War, repeated air raids demolished 55 per cent of the residential area of the city and 60 per cent of harbour installations.

DEMOGRAPHIC CHARACTERISTICS

Between 1950 and 1970, the population of the urban agglomeration of Hamburg grew from 2.17 million to 2.49 million. After 1970, however, the population declined slightly, reaching 2.45 million in 1985. The population of Hamburg then began to increase slowly, reaching 2.62 million in 1995. The average annual rate of population growth was 0.89 during the period 1950-1960, declining to 0.44 per cent in the next decade, and reaching a low of -1.1 per cent during the period 1970-1985. Since 1985, however, the rate of population growth in Hamburg has been on the rise, increasing to 0.66 per cent during 1990-1995. The population of the central city has been declining since 1967 when it reached a maximum of 1.86 million. The decline has slowed in recent years and the migration deficit has become smaller. At present, population losses in the central city are mainly due to a negative rate of natural growth (in 1985, for example, the total number of births in the central city was 12,711, whereas the total number of deaths was 22,266.

ECONOMY

Hamburg is regarded as one of the richest regions of the former Federal Republic of Germany and of Europe. Its share of gross national product per economically active person considerably exceeds that of Germany as a whole. However, in recent years, the growth rate of the city was below the national average. The economic rise of Hamburg since the nineteenth century was related to trade and shipping. The building of ships led to the development of ancillary industries such as steel works and electrical engineering. The importation of raw materials stimulated the growth of processing industries, such as copper smelting and rubber and asbestos plants. Consumer industries, such as food and tobacco, pharmaceuticals and printing were established to meet the needs of the growing population. The shipping, rail and airfreight facilities in Hamburg handle a substantial part of the foreign trade of Germany. The city has worldwide trading links, with important export products consisting of machinery, electrotechnical products, processed petroleum and lubricants, copper and pharmaceutical products. Hamburg is also an important insurance and banking centre.

Since the 1960s, due to the decline in employment in traditional industries, such as shipbuilding, mechanical engineering, and steel and paper processing, unemployment in Hamburg has increased. In 1986, there were about 900,000 jobs in the city and the rate of unemployment was 13.3 per cent. This served to reduce the tax base and raised expenditures on services for the unemployed. On the positive side, development of aviation and the space industry has placed Hamburg as one of the world's major aviation centres. Other growing activities include printing and electronic media, and the film industry.

INFRASTRUCTURE AND SOCIAL SERVICES

During the Second World War, over half of the buildings in Hamburg were destroyed. Following the

War there was a housing construction boom, and since then the city has been built up extensively. By 1956, about 200,000 units had been constructed, the majority in the central parts of the city. By 1960, Hamburg had about the same number of housing units as at the beginning of the War. These new dwellings were of better quality and corresponded to higher post-war standards of living. After the war, the large housing deficit, caused by wartime destruction and in-migration, led to public regulation of the housing market throughout the country. Public housing units tried to meet the demand of the poor and the middle class, with rents far below market values. After 1961, a liberalization of the market was attempted, leading to the development of a free market mainly for the upper middle class and upper class. During the 1970s, rising incomes made private home ownership more important. At the same time, new residential construction moved towards the outskirts of the city.

Hamburg is an important service centre whose economic policy is aimed at preserving and strengthening its competitiveness in this field. Measures undertaken towards this end include providing plots of land for potential investors, expanding the range of cultural and leisure activities, and diversifying and enhancing the supply of superior quality homes. City authorities have formulated a policy concerning the development of office space. An office centre, the "City Nord", surrounded by green spaces, has been constructed between the city centre and the airport. About 10 per cent of available office floor space in Hamburg are located within this area. Urban sprawl and subcentre formation has led to decrease in the relative importance of the central business district (CBD), even though CBD is still the dominant business centre.

During the period 1960-1970, increasing real incomes made private automobiles a serious competitor to public transport. Although there has been significant investment in public transport, the number of persons using public transport has declined. Hamburg has a relatively good system of buses and underground trains and is well served by the German railway network.

PLANNING ISSUES

Given that the loss of population to the suburbs has meant a loss of revenue, there has been concern over retaining population in Hamburg. The policy of the authorities in Hamburg has historically been to promote economic growth. To achieve this goal, the city seeks to attract investors and to retain existing businesses. The city has made it a practice to acquire land for potential business sites. There is currently a policy of making use of empty space in the city and the port area in order to minimize the its outward expansion. In order to promote economic growth, the authorities are increasingly emphasizing sound ecological practices and expanding the range of cultural and recreational activities in order to strengthen the its economic competitiveness.

The planning policy of Hamburg is based on the concept of axial development. This model combines a system of development axes with a complex system of local development on which the main transport network is superimposed. Urban development is not permitted in the spaces between the axes, which are used for agriculture and recreation.

HARARE
(Zimbabwe)

Harare, the capital of Zimbabwe, was founded by the British in 1891. Originally known as Fort Salisbury, the city covers an area of 559 square kilometres. After the construction of a railway from the port of Beira in Mozambique in 1899, the city became an important market and mining centre. Salisbury was capital of the colony of Southern Rhodesia, of the Federation of Rhodesia and Nyasaland (1953-1963), and of Rhodesia during the period of the unilateral declaration of independence (1965-1979). The city was retained as capital by the new Government of independent Zimbabwe and was renamed Harare. Presently, Harare is the centre of industry and commerce in Zimbabwe, as well as its chief transportation hub.

DEMOGRAPHIC CHARACTERISTICS

When Zimbabwe gained its independence in 1978, Harare had a population of some 610,000. Following independence, there was a large exodus from the country; it is estimated that Harare lost approximately 25 per cent of its population between 1979 and 1985.

The population of the urban agglomeration of Harare grew from 84,000 in 1950 to 615,000 in 1980, and to 1.0 million in 1995. The average annual rate of population growth has been estimated at 7.9 per cent during 1950-1970, then declined to 3.0 per cent in 1975-1985 and increased to 4.0 per cent during 1990-1995. The growth rate in Harare is partly influenced by the extensive Zimbabwe National Railway network, which has led to an unusually even distribution of towns throughout the country, with almost all urban centres located along the railway. The population of Harare is projected to reach 1.9 million by the year 2010.

Although the crude birth rate in Harare declined from 47 per 1,000 population in 1985 to 43.9 per 1,000 in 1992, it remains high. However, much of the growth of the city is due to rural-urban migration. Indeed, more than 150,000 migrants from rural Zimbabwe settled in Harare during 1989-1993. Before independence, males comprised the majority of migrants to Harare; once the guerilla movement began, and again after independence, when movement and residence restrictions were lifted, families began to migrate to the capital.

ECONOMY

Harare inherited a relatively well-developed urban industrial sector. The economy manufactures consumer and capital goods, especially textiles and tobacco for export. It is still very much controlled by expatriate enterprises and foreign capital, chiefly based in South Africa. The chief industries in Harare include clothing, fertilizers, furniture and steel manufacturing. There are important gold mines in the vicinity of the city. Harare attracts a considerable share of the industrial and commercial investments, resulting in high employment and a considerable net output. The city is also the main distribution point for agricultural products from surrounding areas, especially tobacco.

Prior to independence, the means of production were largely in the hands of the white population as well as under foreign private ownership. Following independence, an "Africanization" of formal employment began, proceeding rapidly in the public sector. Indeed, by the mid-1980s, only 6 per cent of administrative jobs in Zimbabwe were held by whites. The process proceeded at a much slower pace in the private sector. Although wage employment increased by more than 18 per cent between 1980 and 1988, the increase was not sufficient to absorb the growing labour force. Roughly 75 per cent of the urban labour force are in wage employment, although informal sector activities, food production and marketing have all increased.

The participation of females in the labour force continues to remain low; women were estimated to comprise only some 15 per cent of the non-agricultural labour force in 1985 although, in absolute terms, the number of women joining the formal wage employment sector almost doubled, while their participation in domestic services declined. Women are also found in distributive trades, especially in licensed self-employment in petty commodity trading in food and handmade articles.

INFRASTRUCTURE AND SOCIAL SERVICES

In 1979, the Government repealed the Land Tenure Act which restricted residential location in Harare according to race. By 1985, approximately 23 per cent of dwellings in the former white residential areas, renamed low density residential areas, were inhabited by black Africans. Desegregation proceeded more rapidly near the commercial and industrial employment centre. A certain amount of spatial segregation continues to exist, however, chiefly due to economic factors.

Rural-urban migration and population increase in Harare are taxing the already overburdened and fragile infrastructure of the city. Overcrowding in the townships and squatting both in the townships and on the periphery (largely the result of rural migration and the spread of guerillas in rural areas) of the city was already evident before the country gained its independence. However, it was only recently that Harare began to feel the pressure, when increasing numbers of rural migrants fled rural overcrowding and acute shortages of land; population density in rural areas increased from 13 per square kilometre in 1969 to 233.3 in 1990.

A relaxation in residential legislation, and decreasing employment opportunities with an accompanying increase in rural poverty also fueled rural out-migration to the cities, especially to Harare, which has not been able to absorb the increasing influx of low-income migrants. The availability of affordable housing fell short of demand and prices soared. The Government responded by constructing nearly 30,000 housing units and facilities in the 1980s in the new town of Chitungwiza, comprising almost 20 per cent of the total housing stock of the conurbation. By the end of the decade, the conurbation of Harare-Chitungwiza had almost 110,000 low-income housing units, providing shelter to some 60 per cent of all low-income households. Although the city council has been providing an average of 2,200 housing units per annum over the past 10 years, currently there is a waiting list of 80,000 persons, which is growing at a rate of 12,000 per annum.

Rapid population growth in the capital has resulted in a proliferation of squatter settlements on the periphery of the city. The Government has strictly controlled squatting, demolishing most squatter areas and resettling the occupants. Only the Epworth settlement, the largest squatter settlement in Harare, currently housing some 50,000 persons, received Government support in the form of improvements to existing dwellings. Urban land development and standards for infrastructure are tightly controlled by the Government, and only land that can be serviced is released for development. The relatively high standards for housing have led to a virtual standstill in low-income housing construction. Moreover, policies against squatter settlements have added to the housing problem in Harare.

The housing situation in the capital gave rise to multi-occupancy of the existing housing stock, rather than to illegal construction of new housing units. This has resulted in proliferation of illegal subletting, overcrowding and construction of shacks in backyards. In 1990, some 10,000 persons were reported to be living in 681 housing units in one district, the majority in backyard shacks. A health department survey in Harare in 1992 found a total of 16,009 precariously built shacks in densely populated areas. Overcrowding has resulted in the spread of such diseases as tuberculosis, measles and hepatitis.

The Government is considering populating the low density residential areas and the large-scale construction of walk-up flats for middle-income households in other areas. The Ministry of Public Construction and National Housing has proposed that 60 per cent of all new residential development be in multi-storey buildings in order to reduce urban sprawl. In 1985, the Government adopted the Long-Term Housing Plan, 1985-2000 in order to provide adequate shelter for all urban residents by the year 2000. Thus far, however, Government policies have not been able to address the escalating housing crisis in the capital.

As of the mid-1980s, over 90 per cent of the urban population of Zimbabwe had access to roads, public transport, water supply, sanitation and solid waste disposal. These favourable service ratios have been attributed to a resource-rich period prior to independence, when public investment was directed towards the cities and not the rural areas. After independence, public expenditure was redirected in order to provide a greater share to rural areas, resulting in a reduction of expenditure for the maintenance of urban infrastructure. However, post-independence efforts to divert investment from Harare and Bulawayo to middle-sized and small towns have not as yet succeeded.

Utilities in Harare are well maintained, although shortages of foreign exchange have had a negative impact on the public transportation system. City officials have encountered difficulties in maintaining vehicles and in meeting increasing demand for transportation services.

HAVANA
(Cuba)

Havana, the capital of Cuba, is a port city located on the north-west coast. The city was founded in 1519 by Spain as an outpost in its campaign to conquer the Americas, and it became a port of call for Spanish ships travelling between the American colonies and Europe. After the city was plundered by French buccaneers, Philip II of Spain ordered forts to be built in 1589 to protect the harbour. Construction of the defensive wall of the city began in 1656; the wall encompasses the area now known as Old Havana.

The British occupied Havana briefly after a fierce battle during the Seven Years' War in 1762. The city was later returned to Spain in exchange for the territory of Florida. In 1765, Havana became a free port for commerce with Spain; this led to a period of economic prosperity and population growth. By the middle of the eighteenth century, Havana was the largest commercial port in the New World. Its population of about 50,000 expanded beyond the city walls and made Havana one of the most populous city in the Americas.

In 1959, the Cuban Revolution, led by Fidel Castro, overthrew the old regime and established a communist government. Havana has since undergone considerable transformation, although the historic buildings in Old Havana and the defensive fortresses continue to reflect the colonial heritage of the city.

DEMOGRAPHIC CHARACTERISTICS

The population of the Havana urban agglomeration grew from 1.1 million in 1950 to 2.2 million in 1995. During 1950-1970, the average annual rate of population growth was 2.1 per cent, but it fell to less than 1 per cent during the 1970s. The growth rate increased slightly during 1980-1995, to 1.1 per cent per annum, but is projected to decline to 0.5 per cent by the end of the century. Infant mortality has declined in Havana, from 17.6 per 1,000 live births in 1980 to 14.0 in 1985 and to 9.8 per 1,000 in 1992.

ECONOMY

The economy of Havana is based on light manufacturing (especially textiles), metal processing, agricultural processing (especially sugar and tobacco), port activities, distribution services, commercial fishing and Government services in connection with its status as the capital city. Shipyards build various kinds of fishing boats; the automotive industry manufactures medium-sized buses. The service sector provides the largest proportion of employment. In 1981, almost 98.5 per cent of the economically active population was employed. The means of production are owned by the State, which is also in charge of the wholesale and retail marketing of staple foods.

INFRASTRUCTURE AND SOCIAL SERVICES

Havana encompasses 15 municipalities divided into 93 areas or neighbourhoods. The newly created People's Councils operate at the neighbourhood level as a link between the Municipal Assembly and local residents. Decentralization is an important feature of the administrative structure of the city because it helps to ensure the delivery of services and encourages participation of community residents.

The Government provides free or inexpensive services to its residents in the areas of health, housing and education. Additional benefits are available to disadvantaged groups, such as low-income families, elderly persons without relatives to care for them, single mothers, adolescents without parental protection, and the handicapped and the disabled. Health care at the local level is a priority; indeed, doctors' offices are being built in neighbourhoods so that the local doctor and nurse can live in the neighbourhoods in which they work.

The focus on health care has made health indicators in Havana equal to those in developed countries. Infant mortality has declined rapidly since 1959, and life expectancy has increased from 60 to 74 years. Eradication of childhood diseases is the goal of a vaccination programme covering 14 illnesses. Priority is given to gynecological and perinatal care, congenital ailments and good nutrition for mothers and children. Special programmes for the elderly provide lodging and meals, physical activities, and social and recreational facilities for senior citizens. Funds are provided for social security payments to retirees, and the elderly who want to work are offered full- or part-time jobs.

One of the main problems in Havana is the shortage of housing, which is made worse by the difficulties of maintaining existing housing. Among the efforts being made to improve the situation are the introduction of prefabrication and new technology from other countries. As of 1988, there were about 544,000 dwellings in Havana distributed among 15 municipalities. In connection with the settlement of workers, isolated clusters of unsanitary housing have appeared in certain areas of the city. In 1989, about 3 per cent of the population (some 60,000) of Havana were living in such areas.

The Micro-Brigade Movement is a Government-run construction organization that involves the participation of workers who organize micro-brigades voluntarily at their work centres. They build houses and office space for community services, and they allocate 80 per cent of the dwellings to local families. The remaining 20 per cent are distributed by the local government for offices for social services and other necessary functions.

Havana has more than 2,600 kilometres of roads, many of which are narrow and disconnected. Owing to narrow streets and poor connections between streets, the city has considerable traffic congestion. The heavy traffic within the city consists almost exclusively of buses.

Another notable problem is that of water shortages. The sewerage system also is in need of an overhaul, and some areas of the city are without sewers. A main sewerage channel with intermediate treatment centres is under construction, complemented by measures to reduce pollution in the rivers and bay. As of the late 1980s, solid waste collection services had been extended to 95 per cent of the urban population. While air pollution levels are not considered critical, some areas of the city have at times exceeded the maximum concentrations allowed.

All education in Havana is directed by the national Government. After the revolution, there was a campaign to eradicate illiteracy. More recently, the emphasis has shifted to experiments with new teaching methods designed to prepare more students for university education.

PLANNING ISSUES

Following the revolution in 1959, urban policy in Havana went through several phases. In the first phase, between 1959 and the mid-1970s, the national Government de-emphasized Havana and devoted its main expenditures to the interior of the country. The decline in the growth rate in Havana after 1970 was achieved largely by the transfer of resources, investment and employment to other areas of the country, and particularly to the agricultural sector. After 1966, annual median incomes in agriculture were adjusted steadily upward, and by 1973 they almost equalled those in industry. During the 1960s, the number of schools and teaching personnel also were increased in rural areas. Other measures included rationing of scarce commodities, free health care in rural clinics and preference for construction of new housing in rural areas. Residential zoning laws were put in force and the Government embarked on a large-scale programme of slum eradication in Havana, initially using traditional construction methods, and later switching to semi-prefabricated systems.

In the second phase of the urban policy in Havana, between the mid-1970s and the present, Havana received increased resources, in order to prevent a decline in the physical fabric of the city. Particular emphasis has been placed on the creation of local firms for the maintenance and repair of housing and public buildings, as well as on new construction of residential housing on the urban periphery.

The main goal of the current Master Plan for Havana is to control future expansion of the city through restriction both population growth and industrial location. New neighbourhoods on the urban periphery are being designed to minimize the "dormitory town" effect and to reduce commuting and other demands on the city centre. High-rise buildings are being built in the city centre to provide residential housing; they are surrounded by green spaces and designed to fit in with the pre-existing architecture. In order to promote self-sufficiency, the Government discourages migration to the city from rural areas, except for educational purposes.

HELSINKI
(Finland)

Helsinki, the capital of Finland, is located in the southernmost part of the country, on a peninsula that protrudes into the Gulf of Finland, an extension of the Baltic Sea. It is the northernmost of all continental European capitals. Founded in 1550 by King Gustav Vasa of Sweden, Helsinki was originally located on the Vantaa estuary, but was moved south to its current location in 1640. The city was ravaged by a plague in 1710 and burned to the ground in 1713. Redevelopment was hampered by Russian attacks later in the eighteenth century. In 1812, three years after Finland was ceded to Russia, Tsar Alexander I moved the capital of the grand duchy of Finland from Turku to Helsinki. Finland declared its independence from Russia in 1917 and the Helsinki Parliament elected the first president of Finland in 1919. A leading seaport, Helsinki is also the industrial capital of the nation and its cultural centre.

DEMOGRAPHIC CHARACTERISTICS

The population of Helsinki grew from 365,000 in 1950 to 618,000 in 1970 and to 894,000 in 1980. The Metropolitan Area of Helsinki includes Helsinki, Espoo and Kauniainen to the west, and Vantaa to the north. In 1950, roughly 10 per cent of the population of Finland lived in the metropolitan area; by 1986, the percentage had increased to 20. The population of Helsinki and its surroundings increased by half a million since the Second World War, representing half of the entire population increase of Finland during the period. Both natural increase and in-migration from other parts of the country accounted for the population growth in the area. The population of Helsinki reached a peak in 1969, then declined steadily until 1982, after which it began to register a slight increase; the population of the Helsinki Region increased continuously; in the 1970s and 1980s, this increase took place mostly in Espoo and Vantaa, as well as in the more peripheral municipalities.

Migration to Helsinki increased in the 1950s and 1960s and reached a peak in the early 1970s. At the same time, migration from Helsinki to neighbouring municipalities also increased, but less rapidly in the late 1970s and early 1980s. By the late 1980s, in-migration had slightly exceeded out-migration in Helsinki. Extensive in-migration from other parts of the country has been dominated by persons in the economically active ages, and has served to lower the average age of the population in the Helsinki area. The proportion of persons in the economically active ages has been hovering around 70 per cent since the 1950s; this proportion is even greater in Espoo and Vantaa. The proportion of children has declined (although the declined slowed in the 1980s), and the proportion of pensioners (especially those over the age of 74) has increased.

United Nations 1994 estimates placed the population of the Helsinki urban agglomeration at 1.06 million, which is projected to reach 1.28 million by the year 2010. Approximately one fifth of the total population of Finland resided in the agglomeration.

ECONOMY

Helsinki is the leading seaport and industrial city in Finland. Its economic development is based on its excellent harbours and on good railway and road connections to the interior of Finland. As a result, more than half of the total imports of the country pass through the port of Helsinki. However, only a small percentage of its exports pass through the capital, since the largest export ports are located elsewhere along the coast.

Business, industry and the public sector combine to provide the Helsinki Region with more employment opportunities than anywhere else in Finland. Service activities dominate economic life in the region; indeed, more than 75 per cent of the gross national product comes from services, including wholesale and retail trade, restaurants, transportation, finance, and community, social and personal services. Most branches of the central government are located in the Helsinki Region, mainly in the city of Helsinki. Also located in the region are 50 per cent of the banking and insurance services of the country. Manufacturing (especially metal) and construction are important industries;

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the mechanical and graphics industries are also well represented.

In 1985, 33.3 per cent of the labour force of Helsinki were employed in public and personal services; 20.6 per cent in trade, hotels and restaurants; 15.0 per cent in manufacturing; 14.4 per cent in finance, insurance, real estate and business services; 9.1 per cent in transport and storage; 5.9 per cent in construction; and 1.7 per cent in other industries. In 1985, 130,000 commuters from other municipalities were employed in Helsinki, and 36,000 Helsinki residents commuted outside the city to work, mostly in Vantaa, Espoo, and Kauniainen. Although residents of Helsinki have fairly high incomes compared to the national average, local differences in income levels are larger in the capital than they are in other cities. Moreover, the higher incomes of the inhabitants of the city are largely offset by the higher cost of living in the capital.

INFRASTRUCTURE AND SOCIAL SERVICES

Helsinki is a modern city; there are no vestiges of the past as there are in many old European capitals, because fires destroyed the old wooden Helsinki and it had to be rebuilt many times. Indeed, the only remains of the trade and seafaring town that King Gustav founded are the foundations of a church. The massive walls of the Suomenlinna fortress date back from the eighteenth century, but many of the historically interesting sights of the city date back from the beginning of the nineteenth century when the administrative centre was built around the Senate Square.

Located in multi-storey buildings of five or more floors are 45 per cent of dwellings in Helskinki. Even in Outer Helsinki (with its many detached houses), the majority of dwellings are in multi-storey buildings. Only 17 per cent of all residences are in houses with one or two floors. The largest number of detached houses are located in the northern and north-eastern parts of Helsinki. The suburbs are characterized by a mixture of small garden-town neighbourhoods and large industrialized apartment blocks. Accelerating urbanization has resulted not only in an increase in traffic, but also has brought with it pressures to build high-density developments in green areas, maintain a high quality environment (balancing this need with other social priorities), and prevent the city from merging with the surrounding areas.

The housing situation in Helsinki is characterized by high costs of dwellings and a shortage of rental flats. This has forced many young people and persons with low incomes to live in crowded conditions; in the 1980s, even households in higher socio-economic brackets were unable to move to larger quarters. In 1988, the average cost of a house was 82 per cent higher in Helsinki than the average for the rest of Finland; the differences in rents for flats were not as large. However, it is difficult to rent a flat in Helsinki, mainly because the number of rented or employer-provided dwellings has decreased by 480 per annum during the 1980s. The housing policy in Finland has been greatly influenced by taxation; tax deductions encouraged people to borrow money to purchase a flat or house of their own, while rent regulations and taxation have simultaneously discouraged the renting of flats or houses. As a result, the majority of Finns currently live in owner-occupied dwellings. Compounding the housing problem is the fact that the construction of rented flats financed by state loans has not kept pace with demand; in 1987, of the 7,100 households that applied for a rented flat from the City of Helsinki, only 1,700 were accommodated.

As the national capital, industrial centre, and an active seaport, Helsinki is an important transportation hub. Seven major highways and three railways converge on the city. Traffic density and lack of parking is greatest in Inner Helsinki, where the city structure is both denser and more traditional. Outer Helsinki, which is characterized by newer architecture and more open space, does not suffer from as much traffic volume and lack of parking facilities. The relatively small distances and a good public transportation system, coupled with parking problems and the high cost of living, have served to limit the number of automobiles in Helsinki. Of the 230 million trips made by public transportation in 1986, 56 per cent were made by bus, 24 per cent by tram, 15 per cent by metro and 5 per cent by train. A system of flat fares permits passengers to change freely from one mode of public transportation to another. Public transportation trips have decreased from 66 per cent to 43 per cent over the past 20 years as a proportion of all trips within Helsinki; cycling has increased by some 15 per cent during recent years.

The major sources of air pollution in Helsinki are heating and power plants whose oil and coal burners emit acid sulphur, nitrogen compounds and suspended particles containing heavy metals and incompletely burned hydrocarbons, and motor vehicles whose exhaust gases contain nitrogen oxides, carbon monoxide, hydrocarbons and lead. The acidification caused by sulphur and nitrogen oxides poses health risks to humans and causes damage to forests. The Vantaa River and the areas surrounding its estuary are polluted by emissions from municipalities along its course, and by fertilizer residues that promote the growth of algae and other vegetation that uses up oxygen in the water, which, in turn, reduces the fish stock. However, health authorities consider the water of the Vantaa River and most beaches in Helsinki to be acceptable for swimming. The drinking water for Helsinki residents is transported through a tunnel from Lake Päijänne, which is some 100 kilometres from the city.

Waste from households, offices, construction sites, industry and trade is mostly deposited in landfills; in 1989, Helsinki Metropolitan Area landfills received 638,027 tons of waste from the municipalities of Helsinki, Espoo, Vantaa, Kauniainen and Määrittelemätön. As of the late 1980s, some items, including scrap, 45 per cent of paper and a small percentage of glass, were recycled; the recycling of other waste was taking place on a small scale.

PLANNING ISSUES

The Government has addressed the central issue of urban growth by formulating Master Plan 1992, a non-statutory land-use development plan for the long term—until the year 2020. The Plan, which seeks to prevent towns from merging with neighbouring areas into one giant metropolis, addresses the issues of sustainable development, energy conservation, population and jobs, housing, city structure and traffic and transport. Among the main objectives outlined in the Plan are the containment of new growth within existing city structures; retention of all existing recreational and park areas; protection of shoreline and islands, including the prohibition of new development; energy conservation through the improvement of public transport and a reduction in the amount of private and commercial traffic; a limit to the growth of new workplaces; more intensive use of housing land; encouragement of more housing in the inner city; relocation of the goods-harbour to the periphery where vehicles can connect directly to the national highway and rail networks; and improvement in public transportation connections on the east-west crosstown routes, the airport, the inner city and the outlying areas. Moreover, the Plan calls for new development to make use of the existing infrastructure and services, and new office and commercial development to be located nearest the main public transportation interchanges.

Master Plan 1992 aims to control growth and development by channelling growth into "areas of change" specified within the development plan. Although these areas are predominantly brownfield sites (worn-out industrial areas), a small percentage are on greenfield sites. The "areas of change" have been grouped into different implementation time periods over the next 30 years. As such, the Plan will keep the level of development at an even and controlled pace, enable public services (for example, schools and health centres) to be planned and budgeted in advance to synchronize private development and public services; and coordinate future public transportation networks to meet new demand (for example, extensions to the metro and the newly planned east-west rapid transit route will be built simultaneously with new developments, rather than afterwards).

HO CHI MINH CITY
(Viet Nam)

Ho Chi Minh City

Ho Chi Minh City, known formerly as Saigon, was the capital of the French protectorate of Cochinchina from 1862 to 1954, and of the Republic of Viet Nam (formerly South Vietnam) from 1954 to 1975. As capital of Cochinchina, Saigon was transformed from a small town into a major port city and a metropolitan centre.

French colonial rule continued until 1945, when Japan occupied Saigon. Vietnamese independence was declared by the Viet Minh organization and the French retaliated by seizing control of the city. The First (or French) Indochina War ended in 1954 with the Geneva Conference, which divided Viet Nam into North and South. Saigon became the capital of the former South Viet Nam and received an influx of refugees from the north.

During the Second Indochina War (i.e., the Viet Nam War) of the 1960s and 1970s, Saigon served as headquarters of United States military operations. Parts of the city were destroyed by fighting. In July 1976, the two Viet Nams were united as the Socialist Republic of Viet Nam. Saigon, renamed Ho Chi Minh City, lost its administrative functions to the capital city of Hanoi in northern Viet Nam.

DEMOGRAPHIC CHARACTERISTICS

Ho Chi Minh City is the largest city in Viet Nam. According to the most recent United Nations estimates, the urban agglomeration had a population of 3.5 million in 1995. The City is densely populated, with 1,666 habitants per square kilometre, putting pressure on the existing housing stock. From 1954 to 1974, the population of the city doubled. The average annual rate of population growth in the City was slightly over 3 per cent during the 1970s, declining to 1.7 per cent during the 1980s, and increasing to 1.9 per cent during 1990-1995.

During the Viet Nam war, there was a tremendous rural-urban migration, especially in the South. The proportion of the population residing in urban areas rose from 13 per cent in 1950 to more than 24 per cent in 1970. From 1979 to 1989, the slow-down in the growth rate was partly due to deaths resulting from military action (from 1.5 to 2 million died in military actions during 1960-1980), large-scale emigration following the fall of Saigon (from 750,000 to 1 million refugees left the country), and emigration due to resistance to Government nationalization and resettlement programmes.

Ho Chi Minh City was characterised by net in-migration between 1979 and 1989. Main net suppliers of migrants to Ho Chi Minh City included Hanoi as well as the five southern provinces surrounding Ho Chi Minh City. In 1989, 33 per cent of the urban population lived in Ho Chi Minh City.

ECONOMY

Ho Chi Minh City, the largest industrial centre in Viet Nam, focuses predominantly on light industry, especially textiles. The City and its environs have lured more investors than any other areas in Viet Nam. By February 1993, Ho Chi Minh City had attracted three fourths of the foreign investment thus far approved. The Government is eager to provide incentives to foreign investors to also invest capital in other areas. Ho Chi Minh City will have the first Economic Processing Zone in the country when this joint venture with Taiwan Province of China, which began construction in February 1993, is completed. Moreover, authorities in Ho Chi Minh City asked the central Government for permission to set up a "stock-exchange centre".

It is feared that housing shortage in Viet Nam, including Ho Chi Minh City, will hinder foreign investment. City rents on most property available to foreigners are exorbitant and office space in Ho Chi Minh City are rented at approximately US$12 per square metre per month.

Unemployment is increasingly a problem in Viet Nam, with the post-war baby boom cohort now entering the labour market. Jobs were needed for 3.6

million people in 1992 alone. Priority is given to the 1.4 million unemployed in urban areas.

INFRASTRUCTURE AND SOCIAL SERVICES

Much of the best housing in Ho Chi Minh City is built by the Government. Apart from State-owned housing, a fairly high proportion of urban housing is owned privately or by religious communities. In Ho Chi Minh City, 67 per cent of housing are owned privately, and 75 per cent are semi-permanent and temporary. The average inhabitable space in the entire city is 7.2 square metres per person (including temporary and badly damaged housing). Eighteen per cent of households have only three square metres per person, whereas 11 per cent have less than 1 square metre per person. In addition, at least 1.2 million square metres of shanty towns must be demolished and more than 40 per cent of houses in the inner city need urgent renovation and repair. By the year 2000, the Government hopes to reach a target of 6 square metres of living space per person in urban areas.

The Government acknowledges the role played by temporary accommodation in helping to resolve the housing crisis. It plans to construct permanent and temporary housing at the same pace, as well as to renovate the existing housing stock. The State wants to abolish subsidized housing and is moving towards that goal with a new policy of cooperation between the Government and the people, including opening the housing sector to private and foreign capital.

To improve metropolitan governance, Ho Chi Minh City (with financing from the European Community) has established a computer centre to store information and to link departments and agencies in an integrated network. The division of governmental responsibility between local and national agencies takes on increased importance as Viet Nam moves from a system of State-financed businesses to a market economy. Ho Chi Minh City also participates in CITYNET, a network of large cities in Asia and the Pacific that shares experiences with regard to such common problems as transport development, slum and squatter management and environmental protection. The City also relies on local volunteer associations, which have helped build houses, provided community services to the poor and elderly, and taught courses to educate people about hygiene and family planning.

PLANNING ISSUES

The first aim of the post-reunification strategy, which was to deurbanize and then to maintain slower urban growth, has been achieved. Viet Nam is under-urbanized compared to other developing countries in South-east Asia, with 80 per cent of its population living in rural areas. The population of Viet Nam is concentrated mainly in its delta regions, especially the Red River Delta in the north and the Mekong River Delta in the south. Since the northern delta region is more densely populated than the southern region and population growth is not expected to decline sharply, migration between regions is expected.

Pressure to move out of rural areas is strong, but this was counteracted in the past by tight controls on population movement (including controlling employment and the use of residential permits) and by the relatively low-income differentials between urban and rural areas. The Government also focused on enhancing the development of small towns, such as district and provincial capitals, and on improving the linkages between rural areas and small towns. In addition, New Economic Zones, established by the Government in 1976, served as the main mechanism for population resettlement. This strategy, however, has met with some resistance and uncontrolled migration has been increasing.

Despite these moves, urbanization is proceeding rapidly. The Government has ended programmes to disperse the population over the entire territory. The urban population of Viet Nam in 1990 was 13 million and is forecast to reach 15.5 million by 1995 and 18 million by the year 2000. Growth of very large cities is presently encouraged by the Government to make them into major economic centres which welcome foreign capital. However, the Government plans to direct urban growth and to spread it over a system of secondary cities and, in particular, over "agro-towns", the economic function of which is to bring together agricultural production and small-scale industry.

HONG KONG

Hong Kong Island, which has an area of 79 square kilometres was ceded from China to the United Kingdom of Great Britan and Northern Ireland in 1842. In 1860, Kowloon Peninsula was added, in 1898 the New Territories were leased by China to the United Kingdom for a period of 99 years. By agreement between China and the United Kingdom , Hong Kong will become a Special Administrative Region of China. The total land area of Hong Kong is about 1,070 square kilometres, with 16.5 per cent consisting of built-up area. The urban areas of Hong Kong Island, Kowloon and the New Territories account for 9.6 per cent of the total land area, with the rest consisting of market towns and villages.

DEMOGRAPHIC CHARACTERISTICS

The population of Hong Kong urban agglomeration grew from 1.7 million in 1950 to 5.4 million in 1990. It is expected that the population of Hong Kong will be over 6 million by the year 2000. The average annual rate of population growth declined from 4 per cent in 1950-1960 to 2.6 per cent in the period 1965-1970, increasing to 2.8 per cent in the next decade, and then declining to 1.9 per cent in Hong Kong is one of the most densely populated areas in the world, with a density of 5,048 inhabitants per square kilometre as of 1986. However, most of the population is concentrated in the metropolitan area around the harbour, which has an average density of over 28,000 persons per square kilometre. The most densely populated district, Sham Shui Po, had over 165,000 persons per square kilometre as of 1985.

The birth rate in Hong Kong declined from 17 per 1,000 in 1976 to 13 per 1,000 in 1986, while the death rate remained stable at about 5 per 1,000. Over the same period, the dependency ratio decreased from 554 to 444 per 1,000. In 1983, life expectancy at birth was about 73 years for males and 78 years for females, which were among the highest life expectancies in the world.

The population of Hong Kong has fluctuated over the years due to varying levels of migration from China. Immigration from China was high during the period 1937-1941 and a population count in 1941 indicated a total of 1.6 million inhabitants. Due to large-scale migration to China, the population of Hong Kong declined to 600,000 by 1945. Following the end of the Second World War, immigration from China increased, and by 1951 the population of Hong Kong was estimated to have reached 2 million. There was a significant redistribution of population from Hong Kong Island, Kowloon and New Kowloon to the New Territories during the period 1981-1986. As a result of this population redistribution, the proportion of the population in the New Territories rose from 26 to 35 per cent by the mid-1980s.

ECONOMY

Hong Kong is a major international centre for finance, business and manufacturing. Trade without Government restrictions has been an important characteristic of Hong Kong ever since it was declared a free port in 1942. The absence of exchange controls on the movement of funds has given the city a special financial position. Since 1945, Hong Kong has been transformed into a sophisticated commercial and labour-intensive centre and a tourist centre. The main industries include textiles, clothing, electronic products and watches. In recent years, considerable investment has gone into the production of small high-technology consumer goods such as calculators, optical equipment, digital watches and kitchen and home appliances.

In 1981, 47.2 per cent of the labour force of Hong Kong were employed in the service sector and 42 per cent were employed by various industries (including mining). In 1986, almost 96 per cent of the 2.8 million economically active population of Hong Kong were employed.

INFRASTRUCTURE AND SOCIAL SERVICES

In 1954, the Government of Hong Kong undertook a massive public housing programme which, in 1986, provided housing for about 2.6 million people, or 47 per cent of the total population. As of 1988, about one third of the total capital expenditure was allocated to public housing. Due to the shortage of land in urban areas, most new public housing are being constructed in the New Territories. As of 1988, about 35,000 flats were constructed each year, of which 20 per cent were for sale. Since 1984, annual production has increased as a result of the Private Sector Participation Scheme, which is aimed at producing an average of 5,000 flats a year. Persons who have lost their homes due to land clearances, natural disasters, or other reasons and who do not immediately qualify for permanent housing are offered accommodation in Temporary Housing Areas, which provided housing for about 18,000 people as of 1985. Despite the expansion of both public and private housing, there were about 361,600 persons living in squats or other temporary settlements in the urban areas and the new Territories as of 1988.

Compared to other developed countries, Hong Kong has a low rate of car ownership. Over 90 per cent of the population rely on public transport which, in 1988, carried about 10 million passengers daily. The main means of public transport are buses, minibuses, railways, tramways, ferries and taxies. Transport is run on a fee for service principle and many of the major transportation modes are operated by private companies at a profit. In 1985, buses and minibuses accounted for 62 per cent of public transport; railways were responsible for 17 per cent.

The Government supplies water and, in order to provide adequate supplies in the dry winter period, it has built several reservoirs. In 1988, average daily consumption was about 1.8 million cubic metres. About 300 million cubic metres of water have been purchased and piped from China annually. In order to deal with the problem of population ageing, programmes have been drawn up to coordinate the efforts of various Government departments and non-governmental organizations in providing services to the elderly.

PLANNING ISSUES

In order to promote population redistribution, the Government has constructed new towns with full infrastructure and sufficient job opportunities. In 1972, a major housing programme was inaugurated, with the objective of providing housing for 1.8 million residents. Due to the shortage of existing urban land, the majority of those people were to be accommodated in new towns in the New Territories. In 1986, Hong Kong had six new towns with a total population of 1.6 million inhabitants. The population of those new towns varied from 76,000 to 646,000. Each new town is planned as a balanced, self-contained community with a full range of commercial, social and recreational facilities such as community centres, schools, kindergartens, clinics, and police and fire stations. The programme attempts to ensure that the provision of those facilities will keep pace with rapid population growth. Each new town also provides land for industry so that residents will have the opportunity to work locally. High-speed transport links these new towns to the older population centres in Hong Kong.

ISTANBUL
(Turkey)

Istanbul, the only city in the world built on two continents (Europe and Asia), is situated on a hilly triangular peninsula at the entrance to the Black Sea, on both sides of the Bosphorus straits. Formerly known as Constantinople and, in ancient times, as Byzantium, it is the largest city and seaport in Turkey. Byzantium was founded as a colony by the Greeks at the end of the eighth century B.C. Constantine I made the city his capital (renamed New Rome) and, in 330, the seat of his empire, later renaming it Constantinople. The city, which became the ecclesiastical centre of Christendom under Constantine, came under Latin Christian rule, returned under Byzantine rule and, finally, came under Ottoman rule. It was made capital of the Ottoman Empire in 1453 and became popularly known as Istanbul. With the proclamation of the Republic of Turkey in 1923, the capital was moved to Ankara and Constantinople was officially renamed Istanbul in 1930. The cultural centre of Turkey for centuries, Istanbul is both a unique link between East and West, and a link between past and present. The ancient churches, mosques, museums, palaces and centres of learning serve as reminders of its role in history as the capital of three empires—Byzantine, Roman and Ottoman.

DEMOGRAPHIC CHARACTERISTICS

The population of Istanbul grew from 1.08 million in 1950 to 2.79 million in 1970 and to 4.4 million in 1980. According to the 1990 census, the population of Istanbul was 7.31 million, with an average annual rate of growth of 4.8 per cent and population density of 1,280 inhabitants per square kilometre. The majority of the population resides on the European side of the city. The rapid population growth in Istanbul is due in large part to migration from rural to urban areas.

ECONOMY

Despite the loss of the political power which it enjoyed in the past, Istanbul continues to remain the commercial and industrial capital of Turkey, generating approximately 40 per cent of the taxable wealth and gross national product of the country. Approximately one third of the manufacturing plants of the country are located in Istanbul. Major industries include the manufacture of textiles, cement, glass and leather goods; the processing of tobacco; automobile and truck assembly; printing; and shipbuilding and ship repairing. Many large Turkish banks and foreign insurance companies are located in the city. The European section of the city is the site of major businesses, as well as hotel and office complexes. Tourism is an important source of income in Istanbul. The port of Istanbul handles a large percentage of the imports and exports of the country.

INFRASTRUCTURE AND SOCIAL SERVICES

Istanbul is accessible by air from almost every capital and major city in the world. Trains connect the city with all parts of Europe, as well as the Middle East and Asia. Railways and highways are found in the more urbanized southern part of the city, while the northern part consists of protected forests, agricultural areas and water resources. The port of Istanbul receives cruise lines and private yachts from around the world.

While it is easy to reach Istanbul, public transportation around the city itself is poor. Buses are crowded, and taxis and cars face considerable traffic congestion. Trains provide efficient transportation to the city suburbs. The Bosphorus Bridge links the European and Asian sections of Istanbul. Water transport includes ferries travelling regularly up and down the Bosphorus and across the Sea of Marmara to Princes Islands and beyond; catamaran sea-buses also serve some of the routes.

A new system of municipal administration was introduced in Istanbul in 1984. It consists of a two-tier local government system, the Greater Istanbul Municipality, which has the responsibility for carrying out metropolitan services, and district municipalities which are responsible for local services. The functions of the first tier, also known as the Metropolitan Municipality, are strategic investment planning, dealing with large infrastructure and facilities; physical planning, including the preparation and implementation of Master Plans for the metropolitan area; transportation, including the formulation of policies, construction of major roads, terminals, parking lots and the operation of public transportation services; water supply and sewage; solid waste disposal; and the establishment and operation of parks, gardens and recreational areas.

The Metropolitan Municipality is directly responsible (together with the district municipalities) for metropolitan and local planning; urban renewal; public sanitation; consumer protection; fire and municipal police protection; provision of social services; and parks and gardens. Services, including environmental protection, economic development, historical-artistic heritage, cultural and sports facilities, tourism and museums are supplied by the metropolitan government with the assistance of government agencies. Gas supply and recycling of solid waste are under concessions, while electricity is supplied by a semi-autonomous public agency. The construction of public buildings is the responsibility of public agencies. The Istanbul Transportation Authority is responsible for providing public transportation service (excluding marine transportation) for the entire metropolitan area.

PLANNING ISSUES

The local Master Plan Office of Istanbul, reorganized and with its jurisdiction transferred from the National Government to the Greater Istanbul Municipality, oversees the revision of the existing Master Plan, including data collection; data evaluation; development and evaluation of alternative strategies; and actual preparation of the master plan. The Office examines national and regional impacts on the metropolitan area, as well as its physical structure, demographic composition, social structure, employment opportunities, transportation system, infrastructure, economic structure, property taxes, budget and financing, environmental concerns, and land use. The Master Plan Office also identifies areas targeted for development, prepares demographic and economic forecasts, determines demands on infrastructure and the transportation system, and analyses planning standards and land-use projections.

Among the important new development projects of the Greater Istanbul Municipality are the underground mass rail transit system, extension of the rapid light rail transit system, construction of cultural centres, new reservoirs and water supply treatment plants, improvement of the municipal refuse system, the withholding of permits for high-density building developments, and the revision of local development plans. Important projects include the relocation of the leather industry from the historical peninsula to a new site on the Anatolian side, a campaign to pave city streets with asphalt, and the beautification of parks and streets.

JAKARTA
(Indonesia)

The Dutch East India Company arrived in Java in the late sixteenth century and constructed a walled city, Batavia, near Jakarta Bay which became the centre of Dutch trading activities for the next three centuries. Among their major legacies, the Dutch altered the cultural and ethnic fabric of Jakarta by bringing in non-Javanese slaves from the outer Indonesian islands and workers from Ceylon (now Sri Lanka), Burma (now Myanmar) and Japan, who were followed by migrants from Europe, Arabia, India and China. Following their European tradition, the Dutch built a series of canals which drained the land and protected the traders from enemy attacks. Subsequently, an extensive system of urban railways was developed, linking Jakarta with Tangerang in the west, Serpong and the Sunda straits in the south-west, Bogor and Bandung in the south, and Bekasi and Cirebon in the east. By 1930 Jakarta was a city of 530,000 inhabitants, with a Chinatown and a modern European quarter surrounded by rural villages (*kampungs*).

Jakarta was occupied by Japanese forces in 1942. In 1945, following independence, Jakarta was chosen as the capital city of the newly independent Indonesian nation. By a presidential decision of 1961, the status of Jakarta was raised to that of "special territory".

DEMOGRAPHIC CHARACTERISTICS

Jakarta had a population of about 530,000 in 1930, which increased to 2.9 million in 1961, to 4.5 million in 1971 and to 6.5 million in 1980. The Office of Population Affairs reported that the population of DKI (Special Capital Area) Jakarta was 7.5 million as of 31 December 1985. The average annual rate of population growth in Jakarta declined from 6.1 per cent during 1950-1960 to 3.4 per cent during 1965-1970 and then increased to 4.4 per cent in 1975-1980 and remained the same up to 1995. The United Nations estimated that the population of the Jakarta urban agglomeration in 1995 was 11.5 million, making it the eleventh largest in the world.

There are significant differentials in the rate of growth among various parts of DKI Jakarta. Whereas Central Jakarta experienced negative growth of -0.1 per cent per annum during 1971-1980, North, West and South Jakarta each grew by average annual rates of about 5 per cent, whereas East Jakarta grew by nearly 7 per cent.

Although fertility in Jakarta has been declining, it remains moderately high. The crude birth rate declined from 40.5 per 1,000 during 1966-1970 to about 35 per 1,000 during 1975-1980. The total fertility rate decreased from 5.2 births per woman in the late 1960s (1967-1970) to 4.1 births per woman in the late 1970s (1976-1979)—a 20 per cent decline—and continued to decline during the 1980s. Among the factors contributing to the decline, which was greatest among women between the ages of 15 and 19 and among those over 44, are delays in age at marriage, rising levels of education, and the success of the family planning programme of Indonesia.

Average life expectancy in Jakarta was estimated to be about 58 years in the early 1980s, compared to less than 50 years in the rest of Indonesia. During 1971-1980, infant mortality rate in Jakarta declined from 124 to about 80 per 1,000. The proportion of the population under age 15 years declined from 43 to 39 per cent between 1971 and 1980, whereas the dependency ratio declined from 80 to 68 per cent.

ECONOMY

In regard to the economic base of Jakarta, agriculture has never been an important sector and the city currently imports about 94 per cent of its food supply. Indeed, since the colonial period, when the Dutch brought in migrants primarily to support their trading activities, most Jakarta inhabitants have been engaged in non-agrarian activities. The share of agriculture in gross regional domestic product (GRDP) decreased from 6.5 to 1.5 per cent during 1969-1983. Manufacturing, which increased its share of GRDP from 9.8 to 17 per cent during 1969-1983, has been slow to develop, and is still much less important in Jakarta than in other Asian cities at a comparable level of development. The major manufactured goods produced in Jakarta include textiles, processed foodstuffs, published materials, chemicals and electronic devices. Problems encountered in developing the manufacturing sector include the shortage of land for industrial estates, pressures on industries to reduce pollution levels and the low skill level of the labour force of Jakarta. Trade, which encouraged the disorganized growth of supporting activities, such as warehousing and transportation, has been traditionally very important in Jakarta. However, its share of GRDP declined from 49 to 24 per cent during 1969-1983, partly as a result of the development of port facilities elsewhere in Indonesia.

The share of Jakarta in the gross domestic product represents 9 per cent of the national total. However, its share of gross domestic product has varied among sectors: 14 per cent of transportation and communication, 15 per cent of manufacturing, 25 per cent of trade and services and 65 per cent of banking and financial services.

INFRASTRUCTURE AND SOCIAL SERVICES

As in a majority of large cities in the developing world, large areas of uncontrolled development have been springing up throughout Jakarta, e.g., along canals and railway lines and on open land. There has also been heavy speculation in the urban land market, reflecting the lack of affordable land remaining in DKI Jakarta, except on the fringes of the city to the east and west.

In response to these problems, the Government has adopted an innovative programme, Guided Land Development, which seeks to regulate and accelerate the efforts of people to house themselves by providing serviced urban land affordable by low and middle-income households (at least 60 per cent of the land in GLD areas is earmarked for these groups) in areas with adequate groundwater.

Housing is considered to be one of the most serious problems in Jakarta. More than 20 per cent of the housing stock is temporary, which means that it is generally expected to last less than five years. Nearly 40 per cent is semi-permanent and will probably last less than 15 years. Because of rapid population growth and the need to replace about 10 per cent of the total housing stock annually, demand in Jakarta runs at about 200,000 units per year.

Conventional housing construction programmes in Jakarta coexist with the Kampung Improvement Programme (KIP), an innovative programme begun in Jakarta in 1969 and subsequently extended to 220 Indonesian cities. (The term *kampung* literally means a compound, but came to be applied to the semi-urban villages built on swamps or former rice fields that form a large part of most Indonesian cities.) The basic principles of KIP are simple–to make improvements, even if marginal, in the living standards of as many residents as possible. KIP funds are used to improve public facilities, e.g., to upgrade roads, canals and water supplies, and to construct social welfare facilities, and communal bathing and washing facilities, rather than to be used for private accommodations.

Jakarta's main source of drinking water is the hilly regions to the south outside DKI territory. The piped network was originally designed by the Dutch for a city of half a million inhabitants. Although expanded, it does not cover the entire area of DKI Jakarta. Nearly 80 per cent of Jakarta residents use underground water, which has become steadily depleted. In low-lying North Jakarta, groundwater depletion has caused serious land subsidence, worsened susceptibility of the area to flooding and allowed sea water from the Java Sea to seep into the coastal aquifers.

Jakarta's environment has been deteriorating rapidly. The city does not have a waterborne sewerage system. To cope with the 700,000 cubic metres of sewage that is generated daily, it relies mainly on septic tanks and on the numerous dykes, rivers and other waterways. The City Cleansing Dinas of DKI Jakarta collects only about 35 per cent of the total daily amount of solid waste and transports it to open dump sites, where it is scavenged and sorted by some of the city's 10,000 scavengers. Whereas Jakarta's main roads (e.g., the protocol roads) are kept clean by constant vigilance, sanitation is particularly poor in the *kampungs* and in the public markets. Private transport has increased faster than any other transport mode in DKI Jakarta and has created considerable demand for the expansion of roads and parking facilities, which require large investments of capital and land. Indeed, privately owned motor vehicles increased at an average annual rate of nearly 15 per cent during the 1970s—more than three and a half times the rate of population growth—and now account for 85 per cent of total vehicles. Whereas demand by higher income households is met by private transport, demand by the majority (60 per cent) of Jakarta households is met by public transport. Bus transportation remains the major public transportation mode. As of 1982 Jakarta's bus fleet consisted of 90 double decker buses, 1,280 regular buses, 1,870 microbuses and 1,760 microlets. A major problem is the fact that the fleet is old, with approximately 40 per cent of buses off the road at any given time. In regard to policy measures designed to improve public transport, the Government has created segregated bus lanes. In addition, over the years, the Jakarta authorities have sought to eliminate non-motorized traffic and have banned *betjaks* (three-wheeled bicycle rickshaws).

PLANNING ISSUES

Jakarta's initial response to problems of rapid urban growth was through land use controls and physical planning. In 1967, the Government issued a Master Plan for the period 1965-1985 to deal with problems within a 15-kilometre radius of the city centre. By the early 1970s, it was apparent that Jakarta's population would be much greater than the Master Plan's target population of 6.5 million inhabitants, and there was some attempt to update the Master Plan. A variety of sectoral plans were formulated during the early 1970s, including the Jakarta Metropolitan Area Transport Study, the Water Supply Master Plan, the Sewerage Master Plan, the Railways Master Plan and Tollroad Studies. There was little coordination, however, among the respective government departments involved in preparation of the various plans and, with the exception of arterial road construction, there was limited implementation.

In regard to measures designed to influence population distribution, there has been greater use made in Jakarta of measures aimed at individuals and households and at their very small-scale enterprises. In 1970, for example, the Governor of Jakarta declared the city "closed". Under the closed city policy, which is nominally still in effect, migrants are required to show a certificate either from an employer (to indicate they have a job) or from a school (to show that they have been properly enroled). They must report the specific dwelling in which they will be staying and leave money for a return ticket with a community official. If they do not have a job after six months, they will be returned to their villages. Part of the city closure package was a paragraph ruling that any student wishing to enrol at an educational institution had to have a certificate stating that there was no similar course available closer to his place of origin. Moreover, since 1975 all primary and secondary schools have been closed to students whose parents were not registered citizens of Jakarta.

In its attempt to stem the flow of migrants, the Provincial Government also cleared squatter areas, declared sections of the city to be off-limits to *betjaks* (bicycle rickshaws) and prohibited sidewalk vendors and hawkers—jobs that typically attracted large numbers of new migrants–from working in particular areas. In addition, checks of identity papers were periodically conducted by soldiers of the Control Team, and persons found to be in Jakarta illegally were deposited on the outskirts of the city.

In addition to discouraging migrants from coming to Jakarta and finding work, the Government sought to deal with Java's population surplus through transmigration. A programme which traces its origins to early in this century, when the former Dutch colonial administration moved people out of Java to work on plantations in the outer islands, transmigration became an official policy following independence and picked up momentum in subsequent years. Although transmigration probably did not have a measurable impact on migration to Jakarta, evidence suggests that it was in part responsible for the growth of cities and rural towns on the outer islands.

In the mid-1970s, the concept of physical and economic development planning was introduced for the Jabotabek region. In 1976, a team of planners was charged with revising the development planning strategy for the Jabotabek region. The structure plan for the area, which was completed in 1981, aimed at halting the sprawling north-south development of DKI Jakarta and channeling new residents, industries and office complexes towards the east and west, where the environment was more conducive to growth. It also aimed at: restricting urban growth and industrial development along the entire coastal plain; controlling suburban and industrial development throughout the southern zone of the aquifer recharge area; consolidating urban expansion into secondary growth centres; developing small towns and secondary urban centres; and providing better accessibility to employment and services for the Botabek population.

With respect to the role of the Government in implementation, it was expected that the Government would assist in implementing the plan in some sectors by direct investment in infrastructure, land, buildings and equipment and in other sectors by indirect support mechanisms such as the simplification of procedures. Specifically, in order to use the large and medium--scale manufacturing sector as the leading edge to encourage accelerated growth of Botabek centres (and to maximize linkages with small-scale manufacturing) the Government planned to finance and implement a new programme of Staged Industrial Land Development (SILD). It also planned to restrict new industries in DKI Jakarta and strengthen incentives to locate in Botabek and other regions.

Small-scale manufacturing was to be encouraged not only in Botabek—where it would supplement agricultural employment—but also in Jakarta, where it would provide additional jobs as large and medium-size industry was deconcentrated to Botabek. With respect to trade and services, the strategy planned to encourage larger formal sector businesses to relocate in Botabek and thereby indirectly accelerate the growth of small-scale businesses in those areas. The strategy also planned to decentralize central government agencies outside DKI Jakarta (e.g., at Serpong, Depok and Pondok Gede); and to investigate the feasibility of office "campus" areas at key Botabek growth centres.

Several planning documents were produced for Jakarta during the early 1980s: the DKI Strategic Development Plan (1983/84), which included the DKI Structure Plan 1985-2005, a financial development plan, and a management plan. As in the earlier plan for the Jabotabek region, priority in the strategic plan was given to the development of west and east Jakarta. Development of the northwest and northeast—a flood plan where construction would entail higher investment costs—was to be deferred at least until the year 2000. Expansion was also to be restricted in south Jakarta, where the bulk of the population lived off groundwater. Development of heavy and medium industry, the office sector, trade, and other services was to be limited in north and central Jakarta. New economic activity was to be encouraged in east and west Jakarta but would be restricted in south Jakarta. As a parallel activity, an Economic and Socio-Cultural Development Strategy was also formulated. Basically, its goal was to improve the general welfare by reconciling the conditions and demands of city life with the national philosophy of Pancasila. As for the Jabotabek plan and the related *kabupaten* plans, e.g., the plans for Tangerang and Bekasi, none was ever formally approved by the central Government, hence they had no higher status than a series of recommendations.

JOHANNESBURG
(South Africa)

Johannesburg

Johannesburg sprang up almost overnight after the discovery of gold in 1886, drawing prospectors from all over the world. Located in the grasslands of the Transvaal and being one of the four South African provinces, it has since evolved into the most populous and prosperous metropolitan area in South Africa. A Regional Service Council, comprised of five members, governs this city that spans approximately 450 square kilometres. The metropolitan area is linked to greater Pretoria-Witwatersrand-Vereeniging (PWV), a loose but increasingly integrated urban region. Johannesburg has recently encountered rapid political and demographic changes that have transformed it into a city representative of both European and indigenous African cultures.

Johannesburg has historically been characterized by socio-economic and political cleavages between the races, resulting in segregation and limited opportunities for the black population. With the abandonment of the policy of apartheid, however, the situation is gradually changing. The relative political stability and thriving economy of South Africa are currently attracting black professionals from other countries in Africa, as well as from Europe and the United States, and many of the new arrivals have settled in Johannesburg and its suburbs.

DEMOGRAPHIC CHARACTERISTICS

In 1931, Johannesburg had a population of 400,000, which doubled during the years of the Second World War. The 1986 census revealed 1.35 million metropolitan population, 60 per cent of which were white, 25 per cent African, 11 per cent coloured and 4 per cent of Indian descent. In 1985, the average number of children per woman for a black South African was 5.2, and for whites, 2.1.

According to the United Nations *1994 Revision*, the population of the Johannesburg metropolitan region was 1.8 million in 1995; it had 4.5 per cent of the total population of South Africa. An increase to 4.8 per cent is expected by the year 2010. Owing to the Government's periodic resettlement policies, significant fluctuations in the average annual rate of growth have occurred over the past 40 years. Between 1950 and 1970 the rate remained nearly constant at about 2.3-2.4 per cent. Between 1970 and 1985, however, the average annual rate of growth declined to 0.7 per cent. It has since increased to 1.7 per cent during 1990-1995 and is projected to reach 2.3 per cent by the year 2000. The greater PWV urban region, with a population of 5.5 million in 1980, is projected to reach 12.3 million by the year 2000.

Although migration accounts for a significant portion of population growth, natural increase is the main impetus behind metropolitan population growth. The inner-city population density of Johannesburg is relatively low, at 1,991 persons per square kilometer.

ECONOMY

Johannesburg is the largest mining and industrial centre on the African continent and serves as the commercial hub of South Africa. The region, which once contained the world's richest gold-bearing reef, is rich in natural resources and other minerals: carbon, uranium, green diamonds, iron pyrites, silver, platinum and chrome. As of 1983, approximately 55 per cent of workers were employed in the manufacturing sector, 43 per cent in wholesale and retail industries, and 2 per cent in mining.

The economy of Johannesburg experienced a structural slowdown after 1974. Following a sharp decline in the price of gold in 1981, Johannesburg experienced negative per capita growth rates. The city also experienced an absolute decline in the value of capital stock, especially in manufacturing. By 1985, South Africa had accumulated a financial debt that resulted in a severe balance of payments deficit, forcing the Federal Reserve Bank to increase interest rates. Concurrently, the Government shifted approximately 15 per cent of manufacturing employment from urban to decentralized areas. International anti-apartheid sanctions of the 1980s began to take effect on the economy, producing a financial crisis.

Johannesburg investors turned to local markets in the late 1980s, as exporting labour intensive commodities was no longer viable. In 1989, the value of the Johannesburg Stock Exchange increased by 50 per cent--the highest rate of increase in the world. Real economic growth, however, was only 2 per cent. While the world market was down by an average of 20 per cent in 1990, the Johannesburg Stock Exchange declined by only 4 per cent. Although market values rose sharply, the rest of the economy lagged. This resulted in soaring inflation that was exacerbated by continued investment in financial assets (mostly stocks and real estate) instead of long-term productivity.

Johannesburg is currently revitalizing its export-oriented manufacturing sector, deregulating commerce and increasing privatization of state assets and investment in the means of production. The lifting of international sanctions has improved the economic situation in Johannesburg, but the former apartheid policy and the international economic isolation that resulted have produced lasting side-effects that will take decades to overcome. They include rigid labour markets, skewed consumption patterns, limited development in outlying areas and slow capital growth caused by restricted international investment. Presently, the economy is characterized by over-indebtedness and financial speculation.

INFRASTRUCTURE AND SOCIAL SERVICES

Half of all office space is located in CBD and competition for urban space in general is increasing. The financial district lies to the west. Retail and civic buildings dominate the central city. In the south and east, space is used for various purposes, including housing. The sterile mining belt lies on the southern periphery. The business district has developed unevenly, with modern skyscrapers rising in the west and overcrowded, low-rise 1930s flats dominating the east.

As in all major South African cities, sections of the city remain segregated by race, quality of housing, access to the city and availability of services. Integration is increasing on the outskirts and in some central areas of the city, but racial settlement patterns are expected to persist throughout the 1990s. Large investments were made in recent decades in roads, mass transit, electrification, waste disposal and water and sanitation systems, but only in certain parts of the city. The Independent Development Trust is currently financing the development of basic services in underdeveloped areas.

Transnet, established in April 1990 by the federal government, operates the pipelines, road services, airways and non-commuter railways in Johannesburg. The transportation system was developed according to the dictates of the apartheid system. Because blacks generally live outside the cities of South Africa and commute to the city for work, they commonly have an average commuting time of three hours per day, much of which is spent walking between various transportation modes and waiting for connections. With increased car ownership and in-migration, this has been decreasing. In 1975, car ownership among blacks was 27 per 1,000, whereas the figure is expected to reach 144 per 1,000 by the year 2000. Also, more commuters have been taking private taxis and minibuses that reduce the commuting time by half. As black car ownership and the availability of private taxis have increased, the use of public transportation decreased correspondingly. Indeed, during the 1980s, approximately 30 per cent of commuters deserted the public transportation system. As a result, the cost of maintenance per rider of the public transportation system, which is heavily subsidized by the Government, has been rising. In 1988, South African bus subsidies averaged $0.55 per trip, whereas rail subsidies averaged $0.90 per trip. These subsidies are necessary because commuting workers who are vital to the metropolitan economy cannot afford the actual cost. Badly needed expansion and improvement of commuter rail services have been suspended because investments cannot be recovered.

JOHANNESBURG

Johannesburg has a housing stock of approximately 193,000 dwellings and 900 newly constructed ones. A working-class housing shortage, currently severe, has persisted since the 1920s. By 1983, it was estimated that there were between 8,000 and 12,000 squatters in the city. Growth was largely attributed to the high cost of commuting, low wages, high inner-city rents, high unemployment, migration from the homelands and chronic low-income housing shortage. Squatter camps on the periphery of the city mushroomed in the late 1980s. The Government is currently providing piped water and toilets in designated squatter settlements. The South African Housing Trust and Independent Development Trust are working towards construction of mass housing while also servicing squatter settlements. The Metropolitan Chamber of Johannesburg, established in April 1991, is responsible for ongoing housing policy and service negotiations between the Government and civic associations.

PLANNING ISSUES

Housing areas in Johannesburg developed along strict apartheid lines, separating whites, Asians, coloureds and blacks into separate geographical areas according to the Group Areas Act of 1950. Previously, during the 1930s and 1940s, residential segregation was enforced through segregated government housing developments and slum clearance projects. By clearing the slums, the Government aimed at expanding industrialization, removing populations that allegedly threatened the public health of the inner-city and preventing integration. However, the Squatting Act of 1951 and its amendments in 1976, 1977 and 1980 failed to prevent the proliferation of shantytowns in Johannesburg. The Government has only recently begun to address the low-income housing crisis.

Current population policy is based on rectifying the problems—infrastructural inefficiencies and socio-economic inequalities—that have arisen from apartheid urbanization. Policies prior to 1986 tried to maintain segregation of whites, Asians, coloureds and blacks. The present policy is unique in that it marks the first time that all major private-sector organizations are linked together to achieve new policy directions. Under the coordination of the Urban Foundation, these organizations are working with the State towards "deracialized urbanization", which has both political and economic implications.

KARACHI
(Pakistan)

Karachi, the largest city in Pakistan, functioned as a port from around 1700 but no town existed before 1725. At the time of its settlement by the British in 1836, the small-walled township had a population of about 14,000. Karachi was ceded to the British crown in 1842 and in 1852 the Karachi Metropolitan Corporation was established. The railway network linking Karachi with the rich Punjab hinterland opened in 1861, and the economy received a major boost during the cotton boom of the mid-1860s, which resulted from a decrease in the world supply during the American Civil War. Following completion of the Suez Canal in 1869, the port of Karachi became the shortest sea route between the Punjab and Europe. The city developed rapidly thereafter. The period following the First World War was a boom period for the economy, including the construction of more than 90,000 houses. During the Second World War, Karachi was of vital strategic importance to the Allies, serving as an important airbase and ship rehabilitation port. By the 1950s Karachi had become one of the most important junctions for air traffic between Asia and Europe.

Following partition of the Indian subcontinent in 1947, the economy of Karachi began to expand because of factors other than its role as a British colonial port. For example, the establishment of Karachi as the capital of the newly created nation of Pakistan, until 1959 when the federal capital was transferred to the planned city of Islamabad, spurred the growth of the administrative sector. Similarly, the Government's choice of an industrialization strategy based on import substitution reinforced the growth of Karachi as the major urban centre and only port of the country.

DEMOGRAPHIC CHARACTERISTICS

Following partition in 1947 and the establishment of Pakistan, Karachi received more than 900,000 Moslem refugees from India. Because of net in-migration, the city grew at an average annual rate of 9.4 per cent between 1941 and 1951, reaching a population of 1.07 million. With the closure of the Indo-Pakistan border in the early 1950s, immigration from India fell off sharply. Population growth in Karachi declined from its 1941-1951 level over the next three decades, although it remained high because of a combination of high natural increase and high rates of rural out-migration from surrounding provinces. The rate of population growth in Karachi averaged 6.0 per cent per annum during 1951-1961, 5.7 per cent during 1961-1972 and 4.5 per cent during 1972-1981, with its total population reaching 1.9 million in 1961, 3.5 million in 1972 and 5.21 million in 1981 (the latter figure represents Karachi Urban Area, the urbanized area of Karachi Division). The population of the urban agglomeration of Karachi was estimated to be about 9.9 million in 1995 and to be growing at more than 4 per cent per annum.

There are limited and sometimes conflicting data on other demographic parameters in Karachi. The crude death rate is currently of the order of 9 per 1,000 population. Infant mortality, which greatly improved following the introduction of oral rehydration therapy, is currently estimated to be about 46 per 1,000 live births. However, there are considerable morbidity and mortality differentials in Karachi by geographical area and by social class. Indeed, in a middle-class area of the city, Karimabad, community surveys found low infant mortality and a disease pattern similar to that in an industrialized country. In contrast, in the four *katchi abadis* surveyed, infant mortality rates ranged from 95 to 145 per 1,000 live births, and there was a high incidence of malaria, gastroenteritis, diarrhoeal diseases and infectious diseases.

The crude birth rate in Karachi is currently estimated at 32 per 1,000, compared to the national rate of 43 per 1,000. Again, however, there are widespread differentials, with the crude birth rate ranging from 16 per 1,000 in the middle-class area of Karimabad to about 40-44 per 1,000 in various *katchi abadis*.

ECONOMY

At the time of independence, Karachi had only a small number of industrial units. During the 1960s there was an increase in the production of intermediate and capital goods, e.g., engineering, electrical products, cement, chemicals and fertilizers. By 1981 the city had more than 1,700 registered industries, with a value of net fixed assets exceeding Rs. 4 billion. The largest number of units were in textile manufacturing, followed by printing and publishing, iron and steel-based industries, food preparation, drugs and pharmaceuticals, textile dying and bleaching, transport equipment and chemicals.

In recent years, the Government of Pakistan embarked on a new course of development involving an increased role for the private sector. The Government has also cut subsidies, increased charges for railroads, electricity and gas, and increased import duties, partly to raise capital for investments in literacy and health. The economy picked up during the 1980s and has remained strong. The growth of Karachi has largely paralleled the growth of the national economy, although it has not been affected significantly by the nationwide drop in agricultural output.

INFRASTRUCTURE AND SOCIAL SERVICES

The high rate of population growth in Karachi and sprawling low-density pattern of settlement have created severe shortages of essential services. Since around 1947 thousands of hectares of government land have been developed for housing for low-income groups; however, demand has far exceeded the supply. Both migrants who cannot afford formal-sector housing and families who do not want to go through the complex bureaucratic process to obtain a legal plot have encroached upon open land, spurring the massive growth of squatter settlements (*katchi abadis*), which grew from 212 in 1958 to 432 in 1986. The *katchi abadis* at present shelter an estimated 2.6 million residents and have been growing at 10 per cent per annum—about twice the rate of growth of Karachi. At that rate, the equivalent of the entire population growth is being accommodated each year in *katchi abadis*.

Whereas large-scale Government ownership of land in Karachi offered a potentially unique opportunity to use land-tenure legalization to benefit lower income households, in the end, the land situation has not been very different from that in other Asian mega-cities, where the private sector dominates the land market. From the beginning, KDA development and sale of plots at below-market value created problems. Speculators acquired multiple plots which they kept off the market. Lower income residents who obtained plots often sold their plots to higher income households and then moved elsewhere, often encroaching on public land.

Water supply is one of the most critical problems in Karachi. The city is located some 160 kilometres from the Indus River, which is its major source of ground water. Only about 40 per cent of Karachi households receive piped water, usually for only a few hours daily. The perennial problem of low water pressure has been aggravated by the construction of private storage tanks and by the use of suction devices to draw water from the mains. The remaining 60 per cent of Karachi households are either served by standpipes (at a ratio of about 1 per 270 persons) or purchase water from water tankers.

Although housing areas developed after 1975 have properly laid out sewerage networks, trunk mains to collect the waste water from these networks are grossly inadequate. It has been estimated that the existing reticulation system covers only about one quarter of the total urbanized area. Although a World Bank-funded programme for rehabilitation of trunk mains and construction of missing links was undertaken during 1983-1984, most sewage in Karachi continues to be discharged directly into the rivers and surface drains, causing severe pollution and contaminating the underground water supply.

Household refuse in Karachi is removed by hired private sweepers in high- and middle-income areas and placed in bins; in lower-income areas it is generally thrown into the back lanes. Refuse is removed manually by the 9,000 municipal sweepers of the city and then transported by a fleet of 150 refuse vans to a single dumping site located 30 kilometres outside Karachi, where it is disposed of by burning. It is estimated, however, that only about one third of the 5,600 tons of solid waste generated daily in Karachi is adequately removed. The remaining garbage lies uncollected and rotting in various localities of the city, creating a serious health hazard.

In regard to drainage, the stormwater drainage system in Karachi is rather modest in scale and is designed on a five-year storm frequency basis. The fact that the stormwater drains in various parts of Karachi do not have proper outfalls results in many localities being under water for prolonged periods.

Karachi has a growing number of environmental problems. The piped water supply is generally in good condition when it leaves the treatment plants. However, there are breaks in both the water and sewerage mains. The intermittent supply of water results in negative pressure, which sometimes causes sewage to be sucked into the water pipes. In regard to air pollution, although meteorological conditions and other factors in Karachi are conducive to the dispersion of air pollutants (e.g., Karachi has good wind velocity, sunshine, wide roads and a relatively new stock of automobiles), there is considerable pollution from poorly serviced buses, trucks and rickshaws.

Water pollution is another serious problem. The large number of small industries produce toxic liquid effluents which are discharged untreated into the surface drainage system. The effluent of tanneries, for example, which is high in suspended solids, organic lead and toxic metals, is one of the major causes of water pollution in the city.

Although Karachi has wide roads and, by international standards, relatively moderate traffic levels outside the congested central area, transport is considered to be a major problem. About 75 per cent of the population of Karachi is served by public transport, with buses being the major transportation mode. Of the 2,150 registered buses of the city (840 operated by the publicly-owned Karachi Transport Corporation (KTC) and 1,310 by the private sector), only about 72 per cent, or 1,550 buses, are roadworthy at any given time, a number insufficient to meet the demand of about 1.5 million daily commuter trips.

In recent years, mini-buses have filled the gap caused by the shortage of standard-sized buses. First introduced in the early 1970s, the number of minibuses grew by 80 per cent during 1978-1986 and currently number about 4,500, making them the most widely used mode of public transport. However, because of the large number of accidents involving mini-buses (they accounted for more than 20 per cent of total traffic accidents in recent years), they have been the target of considerable public criticism.

By international standards, the incidence of private vehicle ownership in Karachi is not high. In 1986 there were about 30 private cars and about 32 motorcycles and scooters for every 1,000 population. However, partly because of the inadequacy of the public transport system in Karachi, private transport modes have been growing very rapidly in recent years. Despite steep rises in automobile and gasoline prices, between 1977 and 1986 the number of private automobiles increased by 8.5 per cent per annum, whereas motorcycles and scooters increased by 10.6 per cent per annum.

PLANNING ISSUES

In regard to planning, Karachi is a city which illustrates the difficulty of implementing a traditional master plan. Whereas the Karachi Development Plan, 1974-1985 contained a thorough analysis of the problems in Karachi and presented recommendations to guide the future growth of the city, it has not had a major impact on its development over the past decade. Although investment decisions of KDA and KMC have been guided broadly by the plan, because of a variety of factors—e.g., resource constraints, the difficulty of enforcing zoning laws, widespread encroachment of public land, often by professional enroachers, highly subsidized urban services, and the impacts of large-scale national infrastructure projects, which undoubtedly attracted large numbers of migrants to Karachi—much of the plan was never implemented.

In recent years the Government and international donors have adopted a more management-oriented approach to resolving the problems of Karachi. As previously noted, the Karachi Special Development Programme (KSDP), which is being assisted by the World Bank and the Asian Development Bank, has targeted specific areas where investments will create immediate improvements in service delivery and will simultaneously contribute to the development of the city. The project also aims at strengthening the institutional capacity of local agencies to deliver services.

The new master plan of Karachi, which is being prepared by KDA, with assistance from th e United Nations Centre for Human Settlements (UNCHS), aims at creating an information and monitoring system that will examine the implications of investment proposals in each sector (e.g., water supply, education, transport), both for investment in other sectors and for the total resource pool. The process is intended to minimize waste and to identify areas where standards will need to be lowered to meet the constraints of available resources. This is important because the National Human Settlements Policy Study (NHSPS) of Pakistan concluded that future investment resource pool of Pakistan may cover only from one third to one half of aggregate urbanization costs during 1983-2003.

KATHMANDU
(Nepal)

Kathmandu, the capital of Nepal, is located in the central part of the country known as the hill region, near the intersection of the Baghmati and Vishnumati Rivers, at an altitude of 1,324 metres. Kathmandu, which means "wooden temple", was founded in 723 and has been the seat of the ruling Shah family of the Gurkha people since 1768. Kathmandu is the chief administrative, cultural, educational and industrial centre of Nepal, as well as the main tourist attraction of the country.

DEMOGRAPHIC CHARACTERISTICS

The 1971 Census enumerated a population of 150,400 in Kathmandu; by 1981, the population had grown to 235,160. Despite an estimated current population of 460,000, Kathmandu is considered a very small metropolitan city. Its numbers are increasing rapidly, however, due to the high average annual growth rate of 5.8 per cent during the period 1981-1991. Migrants from the countryside in search of employment in Kathmandu compound the population problem. In 1981, 12.4 per cent of the population of Kathmandu were classified as internal migrants. The urban population of Kathmandu, together with the towns of Lalitpur and Bhaktapur in the Kathmandu Valley, accounts for approximately 36 per cent of the total urban population of Nepal.

ECONOMY

Geographically and politically isolated from the outside world until the mid-twentieth century, the economy of Kathmandu began to be transformed when the Nepalese Government abandoned its policy of political isolation in 1951. Beginning in the early 1970s, with the establishment of regularly scheduled international flights, the tourism industry began to develop rapidly. At present, Kathmandu hosts an average of a quarter million visitors each year.

Surrounded by the fertile Kathmandu Valley, which is still primarily agricultural, the economy of the city is still largely dependent on agricultural activities. However, tourism has spearheaded a development process which has transformed the economy of the city. A middle class is beginning to emerge and modern businesses coexist with more traditional activites.

INFRASTRUCTURE AND SOCIAL SERVICES

Significant developments have occurred in Kathmandu since Nepal reopened its doors to the outside world in 1951. These include the construction of roads, airports, schools, hospitals, industries, communications systems and hydroelectric plants, all of which provide the basic infrastructure essential to further economic and social development. In Kathmandu itself, the two main streets are in sharp contrast to the older sections of the city which have narrow streets and brick houses adorned with carved doors and windows. Many modern buildings had been constructed after the 1934 earthquake. The most notable building in the city is the old durbar, or palace, of the Malla kings which includes the Taleju temple built in 1549. Kathmandu is also the site of Tribhuvan University, which was established in 1959.

The city of Kathmandu is faced with several major problems that have been caused by the lack of planned urbanization. These problems include inadequate supplies of water and electricity; traffic congestion; pollution; and housing shortages. Urbanization, coupled with inadequate infrastructure and resources, has created severe environmental pressures on the air, water and land of the city. There is a great demand for water for industrial processes, residential and commercial uses, and for transporting sewage. It is estimated that only 69 per cent of Kathmandu residents have access to the water supply. Moreover, the low water level has led to a decline in hydroelectric power, forcing the Government to shut off power for about 8-12 hours a day. Disposal of solid waste from households and businesses in the city has also become a major problem, with waste dumps posing serious environmental hazards, and uncollected solid waste eventually finding its way into adjacent water bodies.

Open spaces and rivers also have become dumping sites. It is estimated that only 34 per cent of Kathmandu residents have access to sewerage, whereas only 45 per cent have solid waste collection. A blue haze of pollution from cars, old diesel buses, scooter-taxis, wood fires, kilns and construction fills the once clean Kathmandu Valley, forcing pedestrians to wear cloth masks.

Kathmandu is the hub of the transportation system in Nepal. New roads were constructed in the city in the 1970s, replacing footpaths that have remained the chief means of transportation for centuries. However, the transportation network, which was designed to serve a few thousand vehicles, must now serve approximately 68,000 vehicles, resulting in a traffic pattern that is inefficient for present needs. Vehicles, three wheelers, bicycles, rickshaws, carts, pedestrians and stray animals all compete for road space, causing hazardous conditions as well as air and noise pollution. Moreover, most vehicles park on the roads, causing further traffic congestion. Most bridges are unusable and are only now in the process of being repaired.

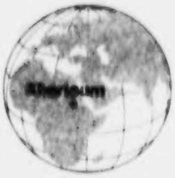
Kathmandu is also faced with a serious housing problem. Spontaneous settlements are multiplying rapidly in response to the growing number of migrants who cannot readily be absorbed into the existing housing system. Slums have become a common feature of the city, whereas cultural and religious sites have become neglected and inhabited by squatters.

The uncontrolled growth of Kathmandu and the limited implementation of planning has resulted in the premature loss of valuable agricultural land within the Kathmandu Valley. Land resources, which were already severely limited due to topographical constraints, have become scarcer as the population has increased.

PLANNING ISSUES

The Government of Nepal recognizes the fact that, under current technological options, the infrastructure and land resources of Kathmandu will soon act as a limit to urban growth. While maintaining the primate position of Kathmandu, the Government seeks to limit the growth of the capital, to disperse a number of key activities to nearby urban areas through a policy of deconcentration and relocation, and to modernize the transportation and communication systems in order to maintain the necessary linkages with the urban core, thus forming a metropolitan region. Emphasis is being placed on local governance and institutional strengthening, with Kathmandu Municipality soon to be upgraded to a Municipal Corporation. Development activities will be implemented at the municipal level and the municipality will also encourage ward-level activities. In a further move to promote decentralization, most awareness programmes relating to the environment, pollution, sanitation, health and hygiene are being initiated with the assistance of wards and communities. The programmes of different line agencies will be coordinated into an integrated urban development system within the municipality. An improved management information system will also be developed within the municipality. Looking towards the future of the city, the Government has adopted a "Green, clean and healthy Kathmandu" motto and is initiating land development programmes, giving people an active role in the maintenance of clean and healthy neighbourhoods.

KHARTOUM
(Sudan)



Khartoum is the capital and the main service and administrative centre of the Sudan. In 1821, Khartoum was an Egyptian army camp which gradually grew into a garrisoned army town. Internal struggle led to the destruction of the town in 1885; reconstruction began after 1898 and the city served as the seat of the Anglo-Sudan Government until 1956, when it became the capital of the independent republic. Greater Khartoum is the largest urban centre in the Sudan, accounting for 35 per cent of the total urban population in 1983. The urban agglomeration includes three separate cities at the confluence of the Blue and White Niles, namely, Omdurman, Khartoum North and Khartoum itself. Industrial development and the expansion of administrative functions has led to the rapid growth of the three towns: Omdurman has grown as a business and residential centre; Khartoum North has grown as a residential and industrial centre; and Khartoum has grown as an administrative centre that has most of the higher order services in the capital area.

DEMOGRAPHIC CHARACTERISTICS

Greater Khartoum had a population of 78,087 in 1906. The population of the urban agglomeration of Khartoum grew from 183,000 in 1950 to 2.4 million in 1995. It is estimated that the population of Khartoum will reach 3.0 million by the end of the twentieth century and 4.7 million by the year 2010. The average annual rate of population growth declined from 6.4 per cent in 1950-1970 to 4.5 per cent during 1990-1995. An important source of population growth in Khartoum is internal migration. During the period 1960-1975, about 60 per cent of the population growth of the city was attributed to migration from rural areas or other urban centres. Among the factors responsible for high rates of in-migration were job opportunities in the city and the successive years of drought which pushed more marginal people into Greater Khartoum. For example, in 1984, Greater Khartoum had over 120,000 "environmental refugees" from Kordofan and Darfur. In recent years, hundreds of thousands of people have fled to Khartoum in order to escape famine and civil war in the south of the country. There were about 2 million refugees living in settlements around Khartoum in 1991.

ECONOMY

Since the Second World War, economic expansion in Khartoum has occurred partly because of the growth of light industry, partly because of its growing role as national capital after independence in 1956, and partly because of the productivity of Gezira, the agricultural hinterland of Khartoum. Located just to the south of the city, Gezira produces 75 per cent of the cotton of the country and 30-40 per cent of the world's production. Khartoum accounts for some 70 per cent of all industrial establishments in the Sudan and is the main service and administrative centre of the country. Important products include textiles, gums and glass. Khartoum is also a centre of trading, printing and food-processing. The influx of refugees has increased demand on the existing meager resources and overburdened the economy. On the other hand, the continued economic recession has resulted in the out-migration of skilled workers and professionals, depriving the city of skilled labour. As of the early 1980s, it was estimated that about 85 per cent of the population was in the low-income category.

INFRASTRUCTURE AND SOCIAL SERVICES

The rapid population growth rate in Khartoum has led to deficiencies in infrastructure and the rapid degradation of the urban environment. Most roads are not paved, except for the main streets. Pedestrian walkways exist only in the centre of the city. Eighty per cent of houses are not connected to the sewerage system. One third of houses do not have electricity and 35 per cent do not have piped water. Due to the existence of a flat desert around Khartoum, there is no shortage of land for urban development. The availability of land, the high rate of population growth and the lack of a national human settlement strategy and specific policies for the Three Towns have resulted in low-density housing areas, vastly extending the urban area. Large squatter settlements have grown around the Three Towns, and some 40 per cent of the population live in 90 spontaneous settlements. Travel distances to the city core have been increasing, overburdening a seriously underequipped transport system. In-migration and a low level of investment in urban services are creating great difficulties for Greater Khartoum. In many communities, self-help associations have been developed in order to provide essential services. These community associations collect funds through both voluntary donations and compulsory tolls on traffic, in order to provide roads, infrastructure and basic community services.

Since the 1920s, the expansion of the city has led to a shortage of water. In order to meet the increasing demand, the authorities have constructed a series of water treatment plants near the Nile river and have tried to exploit groundwater resources. Rehabilitation of the existing water treatment plants, intensive borehole drilling and connection work increased the water supply in Khartoum from 110,000 cubic metres per day in 1982 to 260,000 cubic metres per day by the end of the decade. Nevertheless, the shortage of water persists and many residents, particularly in poorer areas, must buy water from vendors.

The sewage disposal facilities in Khartoum include conventional sewerage systems, septic tanks and traditional pit latrines and aqua-privies. Most squatter areas do not have access to any type of sewerage system. The Three Towns have two sewerage systems serving only 20.5 per cent of the area and less than 5 per cent of the population. Due to overloading of the treatment plants and power cuts, excess sewage is diverted to the White Nile without any treatment, constituting a serious pollution hazard. The problems of the two sewage disposal systems include financial problems, operation and maintenance problems and lack of qualified personnel.

The refuse collection system in Khartoum is inefficient, posing considerable hazard to public health. The main problems are a lack of equipment and personnel as a result of budgetary deficiencies. Refuse is collected either on a house-to-house basis or from central collection points. Collection facilities range from carts and tractors with trailers to proper refuse collection vehicles. More affluent areas pay for garbage collection, while poorer areas do not have access to such services. In spontaneous housing areas, people either dump their garbage outside their houses or take it to a collection point.

Despite the increase in the supply of electricity in recent years, Greater Khartoum is still facing an acute electricity shortage. Population growth, agricultural and industrial production, and the rise in domestic consumption have all contributed to increasing demand for electricity. Due to low electricity costs and unbilled consumption, however, the electricity supply has declined. The supply difficulties have been attributed to management problems and inefficient collection systems, rather than to a lack of resources. Generally, more affluent areas have access to electricity, while poorer areas have limited or no access.

PLANNING ISSUES

The Six-Year Plan of Economic and Social Development (1977-1983) was intended to reduce disparities between rural areas and towns, and to decrease migration from the rural areas to towns and urban centres, which were perceived as becoming "congested with idle human labour". According to the Plan, rural and pastoral areas had been losing manpower and consequently were experiencing a decline in the production of livestock and agricultural crops, which was considered the mainstay of the economic development of the Sudan. There is no formal plan to control the growth of Khartoum, which generally has taken place on an ad hoc basis.

Governmental efforts to control the physical growth of Khartoum have failed in the past. Population growth and shortage of housing have led to the development of squatter settlements. In some areas, the authorities have demolished these settlements and instructed the residents to return to their areas of origin. In other areas, the squatters were able to organize themselves into political pressure groups, providing services through community self-help and, ultimately, gaining legal status and landownership rights. In 1991, the Government approved measures to return refugees to their homes or to new settlement sites.

KIEV
(Ukraine)

Kiev, the capital of and the largest city in the Ukraine, is situated on the banks of the Dnieper River. Excavated hoards of Roman coins and burial grounds dating back to the second century A.D. point to the fact that Kiev was already a large settlement and a major trading centre at that time. By the eleventh century, its strategic location at the intersection of important trade routes enabled the city to become the largest economic and political centre in Eastern Europe. At its peak, Kiev was also a centre of learning, writing, book transcribing and painting. Modern Kiev is the religious, scientific and cultural capital of Ukraine, one of the largest industrial centres in the country and an important transportation and communications hub.

DEMOGRAPHIC CHARACTERISTICS

The population of Kiev rose steadily from 30,000 in the late eighteenth century to 248,000 in 1897. The number of inhabitants, declined during the Second World War, but increased afterwards, reaching 1.2 million by 1960 and 2.2 million by 1980. Kiev is currently the largest city in Ukraine, with a population of 2.8 million as of 1995. Approximately 7.8 per cent of the urban population of Ukraine reside in the Kiev agglomeration. The population of Kiev is expected to reach 3 million by the year 2010.

ECONOMY

Kiev is an important industrial centre, significant in both light and heavy industries. Engineering industries, including the manufacture of complex machinery and precision tools and instruments, are of primary importance. Other important industries include building materials, woodworking, medical technology, pharmaceuticals, consumer goods, food processing and publishing. A large part of the industrial output of the Ukraine is produced by in Kiev, including motorcycles, tape recorders, chemical fertilizers, chemical fibres, industrial machines, precision tools and instruments, aircraft, hydraulic elevators, electrical equipment and instruments, audio and video equipment, textiles, wood products, building materials, cameras, clothing, foodstuffs, leather goods, printed matter and watercraft. As the capital, Kiev has attracted the majority of foreign investment in Ukraine, with companies opening branches or entering into joint ventures with firms in the city.

INFRASTRUCTURE AND SOCIAL SERVICES

Originally occupying the steep right bank of the Dnieper River, the city of Kiev has grown rapidly, extending onto the wide, low, flat floodplain on the left bank. The focus of modern-day Kiev remains its ancient Upper Town, overlooking the Dnieper. The central area of the city, which retains its old-street pattern despite the fact that it is largely a product of post-war reconstruction, is home to most of the historic and architectural monuments, including ancient cathedrals, churches, statues and city gates. Most of the city, which was left in ruins after the Second World War, had been rebuilt and modernized, including buildings, streets, public utilities and industries. The axis of the city centre is the tree-lined Khreshchatyk, the main shopping street, which runs along the bottom of a small valley whose sides have been partly landscaped with terraced gardens interspersed with tall, modern office buildings and apartment houses. Many of the museums, theatres, public buildings, as well as main shops, including the central department store and the covered market, are located in and around the former Old Town. North of the old centre is an area with a rectangular pattern of streets, which is the site of the old merchants' trading exchange and the river port. South of the centre, along the top of the river bank, is a district housing many of the main government buildings. Surrounding the central districts and on the left bank of the Dnieper River are extensive suburbs of factories and residential neighbourhoods that were created as Kiev expanded, annexing villages to the west, east and north. Neighbourhood units consist of groups of apartment buildings housing from 2,500 to 5,000 persons, together with basic services, local shops, a health centre, cinema and an elementary school. Most apartments have only two or three rooms, resulting in high population densities. Increasing automobile ownership has resulted in a lack of sufficient garage space in the new districts. Substantial areas of park and green space surround the neighbourhood units.

Kiev is one of the most verdant cities in the Ukraine, with a "green zone" of 60 parks, suburban forested areas, and tree-lined boulevards and squares, encompassing approximately 383,000 hectares, 18,300 hectares, located mostly in the city proper. Kiev province, which adjoins Chornobyl, site of the 1986 nuclear accident, was affected by radioactive fallout and suffers permanent environmental pollution including higher-than-normal levels of radiation. Kiev city is also plagued by excessive concentration of major air pollutants that are produced by plants with nonexistent or inadequate filtration or purification equipment. Over 75 per cent of the air pollution in the city, however, are caused by automobile emissions. Industrial effluents, containing a high concentration of biogenetic, chemical and microbial pollutants, contribute to the contamination of the Dnieper River.

An important academic, cultural and research centre, Kiev serves as headquarters of the Ukrainian Academy of Sciences, 43 of its 62 research institutes, the Central Scientific Library, Kiev University and over 200 other research and planning and design institutes in the fields of economics, politics, pure and applied sciences, technology and medicine, as well as various ministries and trade and industrial organizations. Various professional theatres, musical ensembles and dance ensembles are based in Kiev. The city is also the centre of Ukrainian film and mass media, the major publishing centre, as well as the chief printing centre.

Kiev is the major transportation hub in Ukraine. A domestic airport at Zhuliany and an international airport at Boryspil serve air passengers, while ground transportation is provided by a network of five railway stations and a bus terminal servicing 50 intercity routes. Kiev is also an important river port, transporting both passengers and cargo. Six major bridges link Left and Right Bank Kiev, including automobile, railway and pedestrian bridges.

KINGSTON
(Jamaica)

Located on a large and protected natural harbour, Kingston is the capital and main port of Jamaica. The city was founded in 1692, after an earthquake that destroyed the original settlement at the mouth of the harbour. Rockfort, a fortress surrounded by a moat, was built at the eastern edge of Kingston in the late seventeenth century. Kingston was incorporated as a city in 1802 and became the capital of Jamaica in 1872. In modern Kingston, the early seafaring character of the waterfront has given way to the tourist industry and the old wharves have been replaced by hotels, shops, commercial buildings and tourist attractions.

DEMOGRAPHIC CHARACTERISTICS

The population of the Kingston Metropolitan Area increased from 340,000 in 1950 to about 582,000 in 1990. One fourth of the entire population of Jamaica lives in the Kingston Metropolitan Area comprised of Kingston (21.8 square kilometres) and the Parish of St. Andrew (430.7 square kilometres).

Kingston has been the destination of many migrants from the rural areas of the country, but the growth of the city has been relatively slow because the major employers in Jamaica—the tourist industry and the bauxite mines—are concentrated in other parts of the country. Moreover, Kingston has been the source of substantial emigration to the United Kingdom and North America, particularly during economic crises.

ECONOMY

The economy of Jamaica during the colonial period was based on agriculture, especially sugar cane grown on large plantations by a slave labour force. Slavery was abolished in 1834, but the economy continued to depend on agriculture until the Second World War. Foreign investment beginning in the 1950s helped to develop the newly discovered bauxite mines and stimulated growth of the tourist industry. Post-war economic development brought rapid urbanization and rural-urban migration, and Kingston soon became the primate city of Jamaica. After a severe economic crisis attributed to the fuel shock of 1973-1974, the Government launched a new economic policy in 1980, aimed at expanding the manufacturing, mining and tourism sectors. Manufacturing activities were encouraged by the establishment of *zonas francas* (free trade zones), two of which are located in Kingston.

In recent years, Kingston has experienced urban deterioration. As the commercial function of the city has declined, high rates of unemployment have prevailed. According to a 1988 labour force survey, unemployment in the Kingston and St. Andrew areas remained at 22 per cent. The informal sector has expanded and street vendors have replaced more formal commercial activities. The centre of the city has been losing population since the 1960s, as people have moved to the suburbs.

INFRASTRUCTURE AND SOCIAL SERVICES

The city of Kingston is comparatively well served in terms of urban services. According to a 1989 survey, 83 per cent of households had electricity, some 71 per cent had piped indoor water, 25 per cent had an outdoor water faucet on the premises, while 3 per cent relied on public standpipes. Some 67 per cent of houses were of block and steel construction, 17 per cent of concrete or brick and 12 per cent of wood. As regards education, school attendance of children between the ages of 6 and 11 is nearly universal throughout the country.

Kingston is characterized by spatial polarization between high-income areas and the urban poor. However, some spontaneous settlements have sprung up on marginal land near middle-class communities. Public housing projects have been ineffective and have not come close to meeting the demand for affordable housing. Efforts to regulate squatter settlements and improve their conditions have been unsuccessful because of lack of funds.

In 1954, a private company (Jamaica Omnibus Service) was granted an exclusive monopoly to provide bus service throughout the Kingston Metropolitan Area. The company operated successfully during its early years, but it ran into increasing difficulties with labour unions and with a growing obligation to operate unprofitable routes. In 1974, the company was taken over by the Government, but costs escalated steadily to the point where in 1983 it required a subsidy in excess of US$1 million per month. At this point, the Government decided to reprivatize public transport, leasing the assets of the service to the private sector and encouraging the development of a large number of small operators.

Roads in the Kingston area were in relatively good condition in the early 1980s. However, road surfaces gradually deteriorated due to a number of factors such as inadequate drainage, frequent use by heavy vehicles, digging of trenches for utility provision and repairs, and water leaks. To overcome these problems and to avoid the need for premature and extensive road rebuilding, the city authorities initiated a five-year road maintenance programme with support from the World Bank. The programme included provision of maintenance equipment, resealing selected roads and sidewalks and improving the drainage system.

The population of the Kingston metropolitan area has suffered periodically from drought and insufficient water storage capacity. In the mid-1980s, over half of the metropolitan population was restricted to less than four hours of water per day for more than 60 days, and some communities had no water at all for more than 30 days; Government-supplied trucks and tankers provided water to neighbourhoods most in need. The limited remaining water within the main system of the city was subject to high contamination due to reduced or negative pressure.

There are 25 solid waste dump sites in Jamaica but only three can be considered to be sanitary landfills. While solid waste collection improved dramatically in the Kingston metropolitan area in the late 1980s, less attention was given to solid waste disposal and, as a result, leachates from garbage dumps have polluted aquifers, streams and beaches.

PLANNING ISSUES

The Urban Development Corporation was created in 1968 to monitor development projects and to divert migration away from the Kingston area. The lack of enforcement of regulations has meant that most urban development has occurred on a spontaneous basis. Subsequent policies were adopted to support regional development and to reduce migration to the Kingston area. In the 1980s, the Comprehensive Rural Township Development Programme was implemented; it aimed at improving basic infrastructure and making rural towns more attractive to migrants. This programme had limited success because it was not adequately financed and because of the lack of coordination with other national development plans.

Since the early 1950s there has been a policy of encouraging the location of manufacturing industry beyond the metropolitan boundaries. The National Physical Plan for 1978-1998 stated that serious efforts should be made to reverse in-migration to Kingston from rural areas and to control urban sprawl by denying permits to developers.

KINSHASA
(Zaire)

In 1881, financed by King Leopold of Belgium, explorer Henry Morton Stanley set out from Vivi, capital of the Congo Free State, and travelled up the Congo River. He followed the waterway into the rain forest until he reached a widening that he named Stanley Pool. It was there on the south bank of the Congo River that he founded a settlement and trading station called Leopoldville, named for the Belgian king. Leopoldville was later designated the capital of the Belgian Congo. In 1971, as part of a programme of cultural change called "authenticite", the country was renamed the Republic of Zaire and its capital city became Kinshasa.

A large, crowded city covering 9,965 square kilometres, Kinshasa is one of nine administrative regions into which the county is divided. Each region is administered by a Governor-Commissioner and a regional assembly. The Governor-Commissioner has authority over the local offices of national departments, prepares the annual budget, manages regional revenue and expenditures, administers service delivery, and acts as the chief local representative of the legal system.

DEMOGRAPHIC CHARACTERISTICS

The population of the urban agglomeration of Kinshasa grew from 173,000 in 1950 to 2.6 million in the 1984 census to an estimated 4.2 million in 1995. The average annual rate of growth increased from 9.6 per cent during 1950-1960 to a high of 11 per cent during 1960-1970 and remained at about 4.5 per cent in subsequent years, declining to 4 per cent during 1990-1995. This remarkable growth has dramatically increased the percentage of the population of Zaire living in the capital, from 1.4 per cent of the total population in 1950 to almost 10 per cent in 1995.

In the early 1980s, it was estimated that only 7 per cent of household heads had been born in Kinshasa, reflecting a rapid rate of in-migration. This rapid growth has created extremely high population densities in some areas. According to the National Commission on Population, population density in Kinshasa averaged 267 inhabitants per square kilometre for the city as a whole, with some areas exceeding 20,000 per square kilometre, compared to a country-wide average of 14.3 per square kilometre.

In 1984, it was estimated that life expectancy for both sexes was 59 years and infant mortality was 86 per 1,000 births, 25 per cent of which was due to measles. The total fertility rate was 6.7 children per woman.

ECONOMY

Zaire is one of the largest and potentially richest countries on the African continent. It possesses a wide range of mineral resources, including copper, cobalt and diamonds and vast relatively untapped natural wealth including timber, water power and high-quality agricultural land, only about 3 per cent of which is cultivated. Even so, by 1989, the growth rate of the gross domestic product (GDP) was -2 per cent and food had to be imported to meet the needs of the population.

Between 1968 and 1974, the economy of Zaire experienced average growth of 7 per cent per annum due to strong world prices for its major commodities. However, this began to change owing to a global recession, falling world commodity prices and the nationalization of many industrial and agricultural enterprises. In 1975, GDP growth reached a low of 6.8 per cent and in 1977 it had only marginally improved to -3 per cent. Economic recovery plans were initiated in 1982 and 1983. Although they seemed to be having some success by the late 1980s, the negative trend resumed. By 1991, inflation had reached an estimated 1,300 per cent per annum.

A small manufacturing sector exists in Zaire, employing about 10 per cent of the economically active labour force. It accounts for about 2 per cent of GDP, producing mostly consumer goods such as beer, cigarettes and textiles. However, most industries

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operate only at about 30 per cent capacity due to a lack of spare parts and low domestic purchasing power.

INFRASTRUCTURE AND SOCIAL SERVICES

Kinshasa is traversed by a north-south pattern of rivers leading to the development of a passable network of north-south roads. Unfortunately, the east-west roads are largely inadequate. Few roads in Kinshasa are paved and most are poorly maintained. In some parts of the city this has made them virtually impassable. Because many areas of the city are not served by roads at all, as many as 500,000 people have no access to public transportation and must walk long distances to reach work or health facilities.

As of 1987, public transportation in Kinshasa was provided by four bus companies, which together accounted for 58 per cent of ridership, with the remainder being supplied by small private operators. Bus capacity is seriously inadequate, with as many as 13,000 passengers for each vehicle. Vehicles are extremely overcrowded, trip times are long, breakdowns are frequent and service irregular.

The city water supply is provided by three different waterworks. As in much of the infrastructure of Kinshasa, areas of the city that were established before independence in 1960 are the best served. As of the early 1980s, 70 per cent of the population were without access to piped water and had to rely on wells, concrete cisterns or a trucked supply. In some areas the wells are quite shallow and often become contaminated. In the mid-1980s, efforts were being made to improve the water supply.

Waste disposal is a serious problem in the city and surrounding areas. Although there is a Government-run waste collection system, it functions irregularly and does not serve many areas of the city that cannot be reached by road. Typically, waste is left by the roadside, buried or thrown in illegal dumps or into the drainage ditches that surround many houses. Often these drainage ditches are filled with refuse, causing flooding and dangerous health conditions during the rainy season. Although upper-income areas often have septic tanks, they are not frequently maintained and sometimes they leak, polluting the groundwater.

With an annual demand for 34,000 new housing units, the capacity of Kinshasa to provide for its citizens is taxed. Even so, housing quality in Kinshasa is reasonably good. Most houses are of durable materials, even though majority of the new houses have been constructed by the squatters themselves on a self-help basis. This situation is complicated by the complex system of land management. Land is considered state property but can be leased by individuals for a specified period of time with an agreement to develop it. Lessees are required to pay an annual fee to the State. Because the system is not well understood, less than 10 per cent of property is properly registered with the Government.

The housing shortage has led to land speculation and large increases in rent. Between 1974 and 1981, there was a 15 per cent increase in lower middle income areas and a 360 per cent increase in the higher income areas. Due to the scarcity and high price of urban land, many residents are forced to move to slums or to occupy areas where settlement is not officially permitted and is often dangerous, such as hillsides and areas that flood. Squatters also occupy land formerly used for agricultural purposes, further complicated by the burden of feeding over 3 million people.

The main health-care facilities are frequently located far from the densely populated areas, leading to long journeys and often inadequate care. Half of the health-care facilities are operated by the State, with the rest run by missions and private groups. There is an average of one physician per 14,000 residents. In 1987, the Government began a campaign against acquired immunodeficiency syndrome (AIDS), stressing education and information, medical training for health-care personnel, case identification, and protection of blood supplies.

KUALA LUMPUR
(Malaysia)

Kuala Lumpur

Kuala Lumpur, the capital of Malaysia, covers an area of 243 square kilometres. Located in a tin-rich valley, the city was founded in the middle of the nineteenth century by Chinese miners. The existence of rich mines around the city encouraged rapid development of Kuala Lumpur. In 1880, the city had a population of only 2,000, increasing to 30,000 by 1900. The physical size of the city also expanded steadily from 1 square kilometre in 1895 to 20 square kilometres in 1903 and to 40 square kilometres by the Second World War. During this process of expansion, many old and new villages, satellite towns and other suburban developments were integrated within the city.

DEMOGRAPHIC CHARACTERISTICS

The population of the urban agglomeration of Kuala Lumpur grew from 208,000 in 1950 to about 1.24 million in 1995. The average annual rate of population growth was about 2.7 per cent during the 1960s, increasing to slightly above 7 per cent during the 1980s, and subsequently declining to 2.0 per cent during the period 1980-1995. In recent years, both natural increase and in-migration have been responsible for population growth. High birth rates have increased the proportion of young people in Kuala Lumpur. Employment opportunities in the city are a major factor responsible for in-migration.

ECONOMY

The economy of Kuala Lumpur has diversified manufacturing, including iron foundries, small-scale tin and rubber smelting, engineering works and food processing. There are many mining areas around Kuala Lumpur. The out-migration of skilled workers (particularly to Singapore) has resulted in rapid increases in wages and a slowing of housing construction. The industrialization policy of the city has focused on the development of light and service industries with a preference for high technology and labour-intensive enterprises.

The Superinduced Metropolitan Region (SMR) of Kuala Lumpur arose out of the market and growth-oriented policies aimed at attracting foreign investments. As Kuala Lumpur became part of the global economy, emphasis was placed on the development of export-oriented industries and urban growth centres. This, in turn, resulted in substantial private and state industrial land development, with its concomitant residential, infrastructural and ancillary demands. In order to alleviate excessive urban and industrial development in the inner core of the city, a concept of "corridors" was envisioned to spread industrial activities away from the city centre along existing highways, railroads and port facilities. This has shifted industrial projects to the outer fringes; for example, in 1990 alone, the states of Selangor, Johor and Penang attracted some 63 per cent of the total industrial projects approved during that year.

According to the 1991 Census, the outer periphery of Kuala Lumpur has been growing by 4.3 per cent per annum as compared to only 2 per cent in the inner areas of the city. Traffic congestion and other infrastructural demands, as well as mounting land prices, are likely to further disperse residential and manufacturing activities to the peripheral areas, especially along major transportation routes. A significant feature of the Superinduced Metropolitan Region of Kuala Lumpur will be relocation towards the urban fringes of many small and medium-sized factories producing essential components for major industries. Moreover, the demands for relocation in traditional rural areas will mean an unprecedented rate of conversion of rural land to non-agricultural uses and a further blurring of the traditional urban-rural boundaries.

INFRASTRUCTURE AND SOCIAL SERVICES

The most pressing problems facing Kuala Lumpur are the results of rapid population growth. Among the main deficiencies are inadequate housing, congested transport and declining environmental conditions. It is estimated that, in 1981, about one quarter of the total population (250,000) of the city consisted of squatters occupying government lands. Between 50 and 60 per cent of the population of Kuala Lumpur requires low-cost housing. The city provides rental houses at subsidized rates for about 10 per cent of the households that cannot afford to buy low-cost homes. In 1979, the average number of families per housing unit was 1.25; most of those units consisted of a single room housing 7-8 persons. About 25 per cent of the housing units had piped water and 20 per cent had electricity. A number of factors favour the development of high-rise buildings, including the scarcity of land, acute demand for housing and governmental policy guidelines.

Medium- and high-priced apartments and condominiums are sprouting throughout Kuala Lumpur, often juxtaposed with the traditional kampung (village) and squatter settlements. It is estimated that close to 480,000 affordable housing units will be needed to accommodate low-income groups in inner Kuala Lumpur in the next 10 years. Approximately 50,000 squatter families reside in the peripheral districts of Petaling, Hulu Langat, Gombak and Klang. In an effort to address the housing problem, the Government is developing new townships and growth centres; for example, the Bandar Bukit Beruntung project is a self-contained township some 25 kilometres north of Kuala Lumpur, which is expected to transform 2,200 hectares of palm and rubber plantations into a business, commercial, industrial and residential complex, with some 15,000 medium- and low-cost housing units to be built for a population of 100,000. Meanwhile, as the mega-urban region of Kuala Lumpur becomes more and more saturated, neighbouring states prepare to absorb the spillover, both in terms of population and industrial investments.

The rate of private automobile ownership is relatively high in Kuala Lumpur. In 1977, there were 16 motor vehicles for every 100 residents. As of 1986, private transport accounted for 70 per cent of daily traffic. Current estimates indicate that there are about 443,000 registered vehicles in Kuala Lumpur, which are expected to increase to 1.4 million by the year 2000. The high rate of private automobile ownership has led to severe traffic congestion. Public transport is considered to be unsatisfactory, with overcrowding of buses at peak periods, a large number of inadequately served routes, irregular frequency of service and deterioration of the available stock. In order to reduce traffic congestion, a number of traffic improvement schemes have been implemented, including road widening, construction of new interchanges at strategic locations, introduction of new systems of traffic lights and construction of new highways. Buses constitute the most important means of public transportation. The Kuala Lumpur Master Plan of 1980 envisaged the need for a Light Rapid Transit (LRT) system. Currently, an implementation study for Phase 1 of the LRT system for metropolitan Kuala Lumpur has been completed.

The NADI Programme, which was implemented in 1980, is a joint venture with community participation project designed to improve the quality of life of low-income residents in high density areas of Kuala Lumpur. The programme also strives to improve the health and welfare of families, to aid career development and implement income-generating projects, to encourage social awareness and community participation, and to improve surrounding areas. Coordinating the activities of various government agencies as well as those of the community, the programme encourages individuals, families, voluntary organizations and agencies to identify needs and targets, and to mobilize available resources and skills in an integrated social services approach to self- and mutual-help slum improvement. To date, the NADI Programme has proved successful in improving the provision of public amenities such as water, electricity, drainage and roads by as much as 90 per cent in low-income areas. It has also boosted educational attendance.

The sewerage system of Kuala Lumpurserves about 25 per cent of the population in the central city and two smaller outlying areas. Some low-income families obtain service through small community facilities, whereas the remaining population is served by septic tanks, privies and night soil collection systems. The rivers passing through Kuala Lumpur are heavily polluted caused by discharge of domestic waste and industrial effluent. Air pollution also poses an increasing threat to environmental quality.

To encourage the development of high-technology industries involved in research and design, a special area has been designated. This industrial park is intended to provide sites for the growth of new enterprises and to facilitate the transfer of technology from research and development to local manufacturers. In order to meet the needs of the increasing population of young adults, the city has built sports facilities, public parks and recreational areas.

PLANNING ISSUES

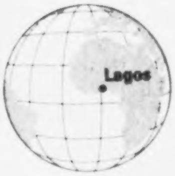
Planning and development in Kuala Lumpur is guided by policies and proposals put forth in the Structure Plan which, along with Local Plans, comprises part of the two-tier Development Plan of the Federal Territory (Planning) Act, Act 267 of 1982. The Structure Plan includes a statement of broad goals, objectives, policies and proposals addressing development, management and improvement of Kuala Lumpur, while Local Plans, which cover smaller areas, deal with detailed implementation of the broader proposals of the Structure Plan. Regional planning in the Klang Valley follows the Regional Perspective Plan of 1984 that updated and refined future strategies and policies guiding regional growth of the Valley until the year 2000. A major issue addressed by the Plan is growth management along the vital corridor stretching from Selayang in the north, to Bangi in the south, Port Klang/Klang in the east and Kuala Lumpur in the centre, acting as the regional hub. The Plan seeks to balance promotion and consolidation of Kuala Lumpur, as well as the needs of other major centres along the corridor. Policies focus on population growth targets by subareas and principal centres, economic growth, housing and infrastructure development and the provision of services. Planners foresee a multi-centre growth approach in the Klang Valley, with polycentric development around a ring of several urban centres. The Valley is seen as a strategic area of national concern.

Two major infrastructure projects are planned for the 1990s: the West Port Development Project in Port Klang to the west is expected to increase the capacity of cargo handled threefold by 2010, making Port Klang the leading port in South-east Asia, and the location of a new airport in Sepang to the south, which, when operational in 1997, will be the largest international airport in South-east Asia. Both projects are expected to intensify growth along the periphery and result in the construction of new towns, commercial ventures as well as new rail and road links to Kuala Lumpur.

The Government of Malaysia has embarked on a project to transform the centre of Kuala Lumpur. The first phase of the Kuala Lumpur City Centre project (KLCC), which could be the single largest new real estate development in the world, is scheduled to be completed by late 1995, and will include two 85-storey office towers or "twin peaks east", two smaller office blocks, a luxury hotel, a large shopping centre and a landscaped park. Additional hotels, offices, new roads, a theatre and luxury condominium flats will be constructed over the next 20 years. There are also plans to widen roads and construct underpasses to deal with traffic problems. A light railway is scheduled to begin service at approximately the same time as the first phase of development.

The Government is also considering the construction of a new city, some 40 kilometres south of Kuala Lumpur, in an area currently covered by plantations. Although the federal capital would remain in Kuala Lumpur, a substantial number of departments and government employees would be transferred from the capital in an effort to reduce traffic and congestion. The site of the new "twin city" is approximately 8 kilometres north of the planned international airport at Sepang; both projects form part of the urban growth corridor in Selangor state. Highway and fast-train links will be constructed to serve the new airport and the city.

LAGOS
(Nigeria)



Lagos, named by the Portuguese for a lagoon at the centre of the group of islands that comprise the metropolis, is the most populous city in Nigeria, the largest country in Africa. Lagos is projected to be one of the world's five largest cities by 2005. The metropolitan area, an estimated 300 square kilometres dotted with creeks, lagoons, ocean and islands, is governed by four of the eight Lagos state local councils. The city of Lagos lies within the state of Lagos, the smallest of the 19 Nigerian states. In an effort to reduce massive urbanization in the metropolitan area, the federal Government is in the process of moving the capital to Abuja, which lies in the geographical centre of Nigeria. This has been a slow and ongoing process since the mid-1970s, and Lagos still houses large divisions of the federal Government.

The original settlers of Lagos, or Eko as it is called by the indigenous population, were of Benin and Awori Eko heritage. The city, a natural harbour, began as a fifteenth century Portuguese trading post exporting ivory, peppers and later slaves—and subsequently fell into the hands of the British, who began exporting food crops after outlawing slavery in 1807. Although Nigeria gained independence in 1960, a a civil war broke out in 1967 which lasted for two and a half years. Post-war migration to the city, coupled with huge waves of refugees and migrants from other African countries, produced a population boom that has continued to the present day.

DEMOGRAPHIC CHARACTERISTICS

The ethnically diverse population of the Lagos urban agglomeration was estimated to be 10.3 million in 1995, approximately 9 per cent of the total population of the country and 23 per cent of its urban population. In 1950, the population was a mere 290,000; by 1985 it had grown to 5.8 million. From 1950 to 1975, the rate of growth averaged 9.8 per cent per annum. It declined to 5.7 during 1975-1980 and remained the same during the following decade. After 1995, it is expected to decline slightly. The population of Lagos is projected to reach 20.7 million by the year 2010.

Lagos has successfully achieved the lowest birth rate in the country, but the continuing influx of rural population coupled with high birth rates presents a constant challenge to population reduction. The average number of children per woman was estimated to be six in 1989, and the annual growth rate to be 3.3 per cent. By the year 2000, the Government hopes to reach a goal of four children per woman and a growth rate of 2.0 per cent.

ECONOMY

Lagos is the commercial and industrial centre of Nigeria, whose gross national product is three times that of any other Western African country due to oil production. Lagos benefits from the endowment from Nigeria of oil, natural gas, coal, fuelwood and water. Although it was considered the most expensive city in the world in the early 1980s, periodic devaluations of the *naira* have helped relieve inflationary pressures.

Food production and exports were vital to the economy in the 1960s but the decline of this sector resulted in the need to import billions of dollars worth of food at present. Light industry was prevalent in post-independence Nigeria and petroleum-related industry dominated in the 1970s, directly affecting the rapid growth of Lagos. Oil production, which began in the 1950s, increased sevenfold between 1965 and 1973, while world oil prices skyrocketed. By 1978, the metropolitan area accounted for 40 per cent of the external trade of Nigeria and 57 per cent of the total value added in manufacturing; it contained 40 per cent of the national skilled population—all with only 5 per cent of the population. The world recession of 1981, which caused a sharp fall in oil prices, sent Lagos reeling into debt and runaway inflation that persists at present. The massive expansion of the infrastructure and social services of the city came to an abrupt halt. Despite the deficiencies which resulted from the aborted development of its infrastructure, the city offers comparative economic advantages to businesses and industries.

INFRASTRUCTURE AND SOCIAL SERVICES

Two major problems plague the infrastructure of Lagos: the land is geographically disjointed and availability is scarce; and secondly, the city has grown rapidly and in a haphazard way. Energy and water access, sewerage, transportation and housing have all been adversely affected, and these problems will continue to challenge Lagos in the 1990s.

Inadequate housing has been a persistent problem for the city of Lagos. In 1963 a United Nations-sponsored survey studied conditions in the urban area and recommended that a Metropolitan Planning Agency be created to replace the several authorities then in place. However, the recommendation was not implemented and housing continued to deteriorate to the point where, in 1972, some parts of Lagos Island had 22 persons living in each habitable room. Finally, an overall planning agency became a reality in 1972, and the master plan for metropolitan Lagos was launched in 1981. The plan identified 42 communities—housing to about 3 million people—within the Lagos metropolis that were in need of urban renewal. The Lagos State Urban Renewal Board was created in 1991 to implement plans to improve the slum areas.

Controlling physical development in Lagos has been difficult. Many developers act without approval from the planning authority of the city. They violate zoning regulations, ignore height and density requirements and sometimes build projects on land belonging to the Government.

Responsibility for some infrastructural facilities lies with the State Government. Since 1985, state urban renewal plans have concentrated on upgrading slum community environments by building roads and drainage channels and providing water supply, electricity, schools and health clinics. With cooperation from the citizenry, success has been recorded in the Olaleye/Iponri pilot urban renewal scheme, Sari Iganmu, Badiya and Otto communities. The State Government has spent more than 250 million *naira* on these projects, and local governments have also contributed about half that amount.

Plans are under way for improvement in several other slums as funds become available. The federal Government recently established an Urban Development Bank to accelerate funding of infrastructure in urban areas. In most cases, residents are not displaced from their communities when new facilities are installed. In Maroko Community, however, the entire settlement had to be demolished, as the land was below sea level and suffered periodic flooding.

In addition to renewing blighted areas, new housing—about 63,000 units per annum—will be needed if the goal of shelter for all by the year 2000 is to be achieved. A state programme to build 100,000 low-income housing units using modern technology has been launched; home-owners are expected to make a down payment of 20 per cent of the purchase price and pay the balance in 25 years. Already, deposits totalling nearly 50 million *naira* have been made by applicants.

Unlike the rest of Nigeria, 90 per cent of the population of Lagos have access to electricity, with the city consuming 45 per cent of the energy of the country. Although the World Bank has helped to finance the improvement and expansion of power transmission and distribution facilities in metropolitan Lagos, the system encounters endemic power outages and damaging voltage fluctuations. The failures of the system are largely attributable to inadequate supply of spare parts (which must be purchased with foreign exchange–also in short supply), as well as poor management and maintenance. Consequently, manufacturers often rely on their own generators, thus increasing production costs.

Despite the region's endowment of water (retrieved from the surface and boreholes), the city suffers from an acute and worsening water supply shortage. World Bank-assisted projects have been working to remedy this situation since the 1970s. Currently, it is estimated that 80,000 consumers benefit from direct connections in addition to the 2,800 standposts. Approximately 28 per cent of the 216,000 cubic metres of daily available treated water is consumed for commercial and industrial purposes, and 72 per cent by households.

Victoria Island has the only conventional sewerage system in the metropolitan area. Although the Government is attempting to eliminate the practice, approximately 50 per cent of the population used the nightsoil-bucket system for excreta disposal as late as the mid-1980s, 35 per cent used pit latrines, and 10 per cent used septic tanks. Due to inadequate sewerage, much of the excreta and sullage is disposed of by the drainage of rainwater through open ditches that discharge onto the tidal flats. During the dry season, when the flushing action of rainfall is absent, drainage channels become blocked with solids and debris, creating stagnant ponds of contaminated water. The World Bank has also been working towards the completion of a major drainage and sewerage system that will reduce frequent flooding that occurs during periods of heavy rain in approximately one third of the metropolitan area.

Traffic congestion is a fact of everyday life in Lagos, where it takes from an average of two and one half to three hours to travel a mere 10-20 kilometres. The ferry system presently transports only 1 per cent of passengers in Lagos, but has the potential of significantly relieving congested bridges. In 1989, the Government planned to improve two existing ferry terminals and construct six new terminals. A new rail commuter service was introduced in Lagos in the late 1980s, and a high-speed elevated metroliner is at the planning stage. Most urban public transportation is provided by private taxis, minibuses and regular buses. The increasing demand for public transportation, coupled with a decrease in the number of newly registered buses in Lagos State (from 8,745 in 1982 to 841 in 1988) has created a crisis situation.

The telecommunications problems of the city have exacerbated traffic congestion. Delays and low completion rates for phone lines--there are an average of five attempts for a single completed connection--often cause people to resort to driving across town to communicate in person. System-wide inefficiencies are attributable to a lack of trained staff as well as maintenance equipment that must be purchased with foreign exchange.

Public education expanded greatly during the 1970s. In 1976, the national campaign for Universal Primary Education was successful in boosting enrolment for grades 1-6 from 6 to 12 million by 1980. The 1981 oil slump forced the Government to withdraw financing, however, causing major cut-backs in salaries and the number of teachers. The quality of the system and its education rapidly deteriorated. By 1985, however, enrolment reached 16 million.

As a result of the Government's expanded programme on immunization, 85 per cent of Nigerian children receive immunization from the six childhood killer diseases. Oral rehydration therapy has also been successful in Lagos. Recently, the emphasis of the health-care system has shifted away from specialized hospitals towards primary health care in an effort to combat the high mortality rate and serious illnesses due to preventable diseases.

LA PAZ
(Bolivia)

La Paz, the administrative capital of Bolivia and the capital of the Department of La Paz, is situated in a deep hollow (*Cuenca*) in the high plateau (the *altiplano*). Throughout its history, the city expanded beyond *Cuenca* and currently incorporates the steep slopes of the hollow, minor valleys towards the south (*la zona sur*) and neighbouring areas in the plateau (El Alto). El Alto was officially incorporated within the La Paz administrative urban area in 1968. Altitude varies from 3,200 to 4,100 metres above sea level, making La Paz the highest capital in the world. The city was founded in 1548 by Alonso de Mendoza as Pueblo Nuevo de Nuestra Señora de la Paz near the indigenous Aymara community of Chiquiago. The aim was to create a link between the mining areas of the region and Lima and Rio de la Plata. The city became part of independent Bolivia in 1825 and was made the administrative capital of the Republic in 1898, as opposed to the constitutional capital, Sucre.

DEMOGRAPHIC CHARACTERISTICS

During the colonial period, La Paz was characterized by slow urbanization and population growth. The situation changed in the nineteenth century, when the city began to grow to become the primary urban centre of the country. By 1827, La Paz was the most populous city in Bolivia, with about 40,000 inhabitants. The trend accelerated in the twentieth century and, between 1902 and 1950, the city experienced average annual population growth of 3 per cent, the highest in Bolivia, with the population of the city increasing from 60,031 to 267,008 inhabitants. This growth trend has continued in recent years; in 1976, the city of La Paz had a population of 635,283, reaching 1.05 million in 1987. Between 1980 and 1987, the population of the city grew at an average annual rate of 4.4 per cent, half of which was due to in-migration. The population of La Paz was estimated at 1.2 million in 1995 and is expected to reach 1.9 million by the year 2010.

A significant share of the population growth of the city has been due to in-migration. Migration flows first increased around 1930 due to unemployment in the mining sector and to rural migration generated by the Chaco war. Later, the economic transformations which accompanied the revolution of 1952 had a strong impact on migration, resulting in massive rural migration towards La Paz. After 1975, migration flows again increased due to the process of architectural modernization in La Paz which created expanded opportunities for employment. As a result, between 1976 and 1980, the rate of natural increase was 2.6 per cent per annum, whereas the migration rate was 2.3 per cent per annum, a situation that persisted during the 1980s. The city is no longer the dominant urban centre in the country as Cochabamba and Santa Cruz have also become leading migration destinations. However, La Paz remains the main destination for intra-departmental migration, which now represents about 70 per cent of total migration to the city. It is estimated that 40 per cent of the population of the city consists of migrants. Rural migration has transformed the city into an "Aymara capital", with 48 per cent of the population Aymara-speaking. As is the case in other Latin American countries, women currently represent a large share of migrants, whereas the earlier waves of migrants tended to be males in the working ages.

ECONOMY

The region of La Paz has been resource-rich since pre-Hispanic times. Its geographical location and the fertility of the land allowed abundant agricultural production. Another major activity was gold extraction, which made the locality an important pre-Colombian cultural centre. The importance of the city was maintained during the colonial period. La Paz was initially a transit centre which was transformed into a major productive and commercial centre by the growth of external commerce by the Pacific route. During the nineteenth century, La Paz experienced significant economic and demographic growth. At the time of independence in 1825, La Paz was considered to be the richest province of Bolivia, with an economy based on cocoa production and world commerce, due to its proximity to the Pacific port of Arica. Following independence, the port of Arica was ceded to Peru, causing a considerable loss for the Bolivian and La Paz economies.

The beginning of the twentieth century witnessed the development of an export and extractive economy which fostered commercial and financial activities. The construction of the railroad also favoured the development of La Paz. This economic growth supported a limited regional process of industrialization, as local industries began to evolve from the dominant craft activities to manufacturing of food products and textiles.

After 1950, the revolution initiated a major socio-economic transformation, including nationalization of the mines and development of a new economic and commercial axis of La Paz-Cochabamba-Santa Cruz. During the period 1950-1976, the national policy of economic diversification gave particular emphasis to agro-industry. Beginning in the 1970s, import substitution received a new impetus. Overall, the period 1965-1975 represented the peak of the national economic growth.

La Paz is currently the political, socio-economic and cultural centre of the country. As the seat of the national Government, the labour market in La Paz has been characterized by a relatively large share of Government-related jobs (although the official capital of Bolivia is Sucre, the only Government institution located in Sucre is the Supreme Court). The major part of the industrial infrastructure of the country is also located in La Paz. The city is an important commercial centre and the link of the couontry with the world economic system. Most of the employment opportunities in the city are to be found in CBD.

In 1980, the economically active population (over 10 years of age) represented 74 per cent of the total population. More than 50 per cent were migrants. The tertiarization of the urban economy is shown by the high rate of participation in this sector—70 per cent, compared to 27.4 per cent in manufacturing. The increase in in-migration has created pressures on the already inelastic labour market, increasing the number of urban poor. Unemployment increased from 7.9 per cent in 1977 to 9.8 per cent in 1980 as a result of the economic recession and to 11.9 per cent in 1989. Because of rising unemployment, the informal sector represents the most dynamic part of the economy of La Paz. Women constitute a significant share of informal employment. The informal sector consists mainly of small-scale production and distribution activities, personal and domestic services, and street-peddling.

INFRASTRUCTURE AND SOCIAL SERVICES

From the beginning of the twentieth century, La Paz experienced significant expansion as a result of its economic and demographic growth. A city centre gradually developed, crossed by primary avenues on the model of a number of European and North American cities. The Municipality began to provide electricity in 1905 and, beginning in 1910, developed communications and public transportation systems. In 1922, it began installation of a sewerage network. The city also became an important railroad hub. Most urban development efforts, however, were directed at the city centre and residential areas, leaving the lower income areas without basic services. The housing problem was exacerbated by the fact that, during the earlier phases of development of the city, many residential buildings were transformed into commercial and industrial establishments.

The geographical configuration of La Paz has significantly influenced its development, compelling many lower income residents to settle in inhospitable areas. The urban area is divided into four zones, with altitude corresponding to different socio-economic levels. At the bottom of *Cuenca* is the city centre, which includes the old colonial city. In this area are concentrated the major administrative, cultural and economic activities, most commercial establishments, government offices and the traditional industrial zone. Land prices in the central city are very high and, as a result, led to the displacement of many lower income residents. However, many of old mansions in the central city have been vacated by the upper classes and were either converted to commercial uses or rented by the room to poorer families. These so-called *conventillos*, which have been an important segment of the lower end rental housing market in La Paz, have been threatened by urban development. As *conventillos* are demolished to allow the construction of high-rise buildings, the housing deficit for lower and medium-income families has increased. The *conventillos* still accommodate more than 10,000 inhabitants.

The elite has shifted its area of traditional residence from the city centre to the south-eastern suburbs. This area, known as *El Bajo* (the lowland), is still situated at an impressive 3,200 metres above sea level, some 400 metres below the level of the colonial centre. Climatic conditions in *El Bajo* are more agreeable (less wind, higher temperatures, more vegetation), and the neighbourhood is very well equipped.

The hillsides of *Cuenca* in the periphery of the city centre have been settled by low-income residents living in high-density individual dwellings (*villas periféricas*). Public services are insufficient and sometimes absent. These areas have poor health services, poor roads and limited educational facilities.

A satellite town has developed on the high plateau in the west of La Paz. Called *El Alto* (the upland), it is situated at some 4,000 metres of altitude. In this cold and bleak self-built settlement, housing standards are low and overall living conditions are difficult, with many dwellings lacking drinking water. Located far from commercial and other economic activities, transportation is very poor and creates a serious problem for the resident workforce. Despite these problems, *El Alto* is rapidly expanding. As the central basin no longer has space for new housing construction, most new settlement is taking place in this inhospitable high plateau. Some 60,000 persons were already living in *El Alto* as of 1968 when the settlement was officially integrated within the administrative area of La Paz. Recent official data estimate that the population had soared to at least 300,000 by 1990, although other estimates contend that the area accommodates as many as 450,000 residents.

Due to the unusual topography of the city, the two parallel processes of expansion that took place simultaneously in *Cuenca* and on the high plateau of *El Alto* left the higher and steeper parts of the *Cuenca* untouched. It was only during the 1970s that these inhospitable precipices began to be settled on a massive scale. In many cases, the only access to these "eagle's nests" is one of the treacherous footpaths leading from the edge of the *El Alto* plateau. It is through the build-up of this zone that the two former peripheral areas of *El Alto* and *La Cuenca* have virtually coalesced.

In contrast to the massive spread of squatter settlements in many other cities of the world, the major mode of land supply for the poor in La Paz continues to be subdivision. Only on the steep slopes of the *Cuenca* has some infiltration of vacant land occurred, on a family by family basis. Here, and in the other self-built areas, people feel quite secure, as the local government has refrained from intervening. Many of these areas are connected to the electricity system within a short period, which adds to a sense of security. This explains why households in La Paz are willing to invest relatively large sums in the construction, expansion and progressive improvement of their homes. Moreover, because the harsh climate of the Altiplano requires the use of durable materials, temporary shacks are virtually unknown in La Paz and even the poorest structures consist almost entirely of locally made sundried adobe blocks.

Overall living conditions on the self-built periphery remain poor. In 1979, it was estimated that 80 per cent of the dwellings lacked basic services. According to 1989 estimates, 73 per cent of the dwellings in the peripheral areas did not have water and 76 per cent did not have sanitary facilities. In contrast, about 83 per cent had access to electricity.

PLANNING ISSUES

During the 1970s, the Municipality pursued a strategy of modernization and economic development of the urban area. It significantly increased investments directed towards architectural and infrastructure modernization, particularly in the poor areas. From the early 1970s onward, a marked process of conversion of the city centre into a business district began to take place. In the course of this process, many *conventillos* were demolished, decreasing housing opportunities in the city centre.

Plano de Desarrollo Urbano de La Paz (La Paz Urban Development Plan), formulated by the Municipality of La Paz in 1977, attempted to rationalize the spacial configuration of the city through an improved road system and through the relocation of various types of economic activity to particular areas. Accordingly, the city centre was designated for the tertiary sector, whereas *El Alto* was designated for the development of the secondary and, in particular, agro-industrial sector. The plan also stated that future expansion of the lower standard housing stock of the city was to take place mainly in *El Alto*. The city was to be divided into three large rings crossed by nine main radial roads. At the same time, a new urban centre would be developed in the valleys adjacent to the city in the south-east and linked to it by highway system. It also designated *El Bajo* as the area where future residential development would be primarily for higher income groups. The official announcement of the plan gave rise to a surge in land transactions on the rural-urban fringes of *El Alto*. The plan in fact sanctioned the quasi-legal practice of subdivision, contributing to the progressive densification of the periphery.

LIMA
(Peru)

Lima, the capital of Peru, is located on the Rimac River, about eight miles inland from the Pacific port of Callao. The city was founded by the conquistador Francisco Pizarro in 1535 at the ancient pre-Incan religious site of Pachacamac. Lima soon became the capital of the new Peruvian colony. The city was settled by Spanish colonists in the sixteenth century; during the seventeenth century, it was enclosed with walls. Universidad Nacional Mayor de San Marcos de Lima, the oldest university in the country located in Lima, was founded in 1551. The rich historical past, both pre-Columbian and colonial, is preserved in the many museums and archaeological sites within the city. At present, Lima dominates the most densely populated and economically developed part of the country. The metropolitan area of Lima *(Lima Metropolitana)* is composed of the provinces of Lima and Callao.

DEMOGRAPHIC CHARACTERISTICS

Since 1950, the population of the Lima urban agglomeration has grown from 973,000 to 7.5 million in 1995, within a territory of 28,732 square kilometres. The city has drawn population from the less developed areas of the country, with its population currently representing 31 per cent of the total population of Peru. Heavy in-migration is primarily responsible for the high population growth rate. However, the annual population growth rate shows a declining trend. During 1950-1970, the population of the Lima agglomeration grew at an annual rate of 5.5 per cent. During 1970-1975, the annual growth rate slowed to 4.5 per cent, slowing further to 3.8 per cent between 1975 and 1980 and remained the same in the 1980s. In 1990-1995, the annual growth rate declined to 2.8 per cent. In 1989, infant mortality remained at 53 per 1,000 live births and life expectancy at birth was about 71 years for both sexes. The total fertility rate in Lima was 2.9 births per woman in 1989, which was lower than the national rate of 4.3.

ECONOMY

Metropolitan Lima is the economic and cultural centre of Peru; as of 1990 it accounted for 60 per cent of the industrial gross domestic product, 87 per cent of collected taxes, 98 per cent of private investment, 73 per cent of the physicians in the country, 62 per cent of university professors and 32 per cent of the economically active population. As of 1984, the Lima Metropolitan Area accounted for more than 90 per cent of the national output of capital goods, two thirds of national consumer goods and almost all of of the financial and business services in the country. During the past 10 years the industrial sector lost weight in favour of the tertiary sector; the proportion of workers in industry decreased from 41 per cent in 1981 to 21 per cent in 1987.

INFRASTRUCTURE AND SOCIAL SERVICES

Rapid urban growth coupled with poor living conditions has led to a collapse of basic services and infrastructure in Lima. The city centre, whose infrastructure is obsolete, includes residential buildings combined with commercial and service activities and slum areas (*tugurios*). The surrounding zone includes an area with relatively good infrastructure which is well linked to the centre, and an area of squatter settlements and shanty towns lacking basic services. The outer periphery includes a wealthy residential area with good infrastructure. The industrial east-west axis, which includes the mining-metallurgic area and the port of Callao, meets the residential north-south axis, which serves as the core of tertiary activities and coincides with the historic centre of the city.

Most of the urban poor in Lima live in low-income areas called *pueblos jovenes* (young settlements), which typically lack adequate water, electricity, transport, sewerage, health care services and employment. The *pueblos jovenes* are usually formed through organized squatter "invasions" of public land. In the mid-1970s, the Peruvian Government legalized the tenure of squatters living in *pueblos jovenes* and supported the creation of community organizations to provide a structure through which self-help activities could be organized. As of the early 1980s, about 54 per cent of households in Lima were classified as "absolutely poor" and about 62 per cent were classified as "relatively poor". More than 60 per cent of the population lived in central city slums or in the peripheral squatter settlements (including the *pueblos jovenes* formed by illegal invasions). As of 1990, 32 per cent of the population of the metropolitan area lived in squatter settlements, which accounted for 42 per cent of the total land area and 20 per cent of the population lived in shanty towns, which occupied 14 per cent of the land area.

Lack of water remains a serious problem for Lima, which is located on the most arid coastal desert of the continent. The main source of water in the city is surface water from the Rimac River, as well as groundwater. As of 1981, average daily domestic water consumption was about 204 litres per capita. It was estimated that middle- and high-income groups used about 330 litres per capita, low-income groups used about 56 litres, whereas the population served through standpipes and water trucks used about 20 litres per capita. As of 1981, it was estimated that about 20 per cent of water supply in Lima was not chlorinated. In the *pueblos jovenes*, water is provided either by public standpipes or is purchased from private trucks. In either case, the water is stored in oil drums or masonry water tanks--primitive systems that are responsible for a high incidence of gastro-intestinal illnesses. The inadequate supply of uncontaminated water has led to the spread of cholera.

Electricity is produced by state-owned companies in seven plants, six hydroelectric and one thermal, which generate about 4.3 gigawatts per annum, supplying an estimated 90 per cent of total demand. The recent drought has resulted in reduced service and frequent blackouts.

The collection of solid waste in Lima is a chronic problem, caused not only by an insufficient number of garbage collection vehicles, but also by a lack of transfer plants and landfills. Sewerage installations cover only the city centre and part of the new settlements. An already difficult situation is made worse by inadequate repair and maintenance of the fleet of refuse collection vehicles, with more than 40 per cent of the vehicles being out of service at any given point in time. Most of the refuse that is collected goes to unsanitary open dumps. Lack of water purification and the direct discharge of sewerage into the sea has resulted in hazardous contamination of the sea which contributes to the spread of cholera.

The transportation system in Lima, which absorbs much of the municipal budget, is considered to be unsatisfactory. Public transport consists of buses and microbuses that are operated by a state company and a number of private microbus owners. As of 1983, 1,148 buses were registered by 20 companies and another 6,900 microbuses of varying sizes were registered by individuals or associations. There are major shortfalls in the provision of transport to low-income residents in the periphery. The bus system in Lima is grossly inefficient; there is little organization of routes and drivers often compete for the most dense routes and neglect the lightly travelled arteries. The most serious problems are congestion and environmental pollution due to high volume of traffic. Traffic congestion also stems from poor traffic management, the deterioration of the network of roads and the monocentric structure of the city. The number of private automobiles has been growing very rapidly, partly as a result of the subsidization of gasoline prices, which are far below the world price. About 85 per cent of the private cars in the country are registered in Lima.

Public educational institutions in Lima are often severely overcrowded; some schools with an intended capacity of 1,000 pupils are forced to accommodate 10,000 pupils, on split shifts.

PLANNING ISSUES

Among the factors supporting the population growth in Lima have been the import-substitution strategy of industrialization of Peru through high import tariffs and quotas, the growth in the size of the

Government and its centralization in Lima, and the relative stagnation of the agricultural sector. Additional factors favouring the growth of Lima include overvaluation of the currency, subsidized utility rates, free urban lots, subsidized mortgages, cheap gasoline and subsidized food prices. Urban policies have been hampered by the fact that Callao is an autonomous province, which has often created administrative difficulties and impeded a comprehensive urban planning strategy.

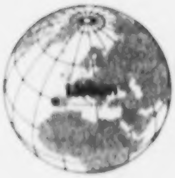
Since 1968, the Government of Peru has encouraged decentralization of economic activities to stem the flow of migrants to the coastal region, and into the Lima metropolitan region in particular. One of the instruments for accomplishing this goal was the National Urban Development Plan prepared by the Ministry of Development and Housing in the early 1970s. The provisions of the Plan included the completion of agrarian reform, the development of new cultivated areas, the strengthening of other urban centres (especially Arequipa and Cuzco), and the colonization and industrialization of the underpopulated eastern region.

A Plan for the Development of Metropolitan Lima and Callao (PLANDEMET) was drawn up in 1972 with the goal of increasing the density of the already built-up areas, concentrating further urban growth along five designated highways and establishing a central development body to regulate further the growth of the city. It was, however, never implemented since the administration responsible for the Plan left office. The succeeding Government supported a modified "decongestion corridor" plan to encourage urban growth north of Lima at HuachoBarranca and to the south of Lima at Pisco-Chincha Alta. The main steps taken were the partial completion of a coastal expressway and the development of a new port close to Pisco.

However, the planning efforts undertaken during 1969-1980 generally had little impact. Between 1980 and 1983, the *Plan de Estructuración Urbana de Lima Metropolitana 1996* was implemented; this plan also included environmental objectives. Among other goals, it aimed at solving emergency situations such as the regulation of land use in developing areas and the legal and physical rehabilitation of squatter settlements. It also envisioned the revitalization of decaying areas and the preservation of historic monuments and districts.

In 1985, a new master plan was prepared for metropolitan Lima, the *Planmet-Plan Metropolitano de Lima.* Its aim is to break the monocentric structure of the metropolitan area through the promotion of complete service nuclei in the surrounding centres. It also called for the regulation of urban land uses, an increase in land densities, the revitalization of decaying urban areas, the restriction of new activities in the historic city centre and the protection of agricultural areas.

LISBON
(Portugal)



Lisbon, the capital of and the largest city in Portugal, is situated on the right bank of the delta of the Tagus River, 15 kilometres from the Atlantic Ocean. The westernmost city in Europe, Lisbon is built on many levels. The territory of Lisbon proper is limited, covering only about 87 square kilometres, including large areas of hilly countryside. As a result, the population of the city is concentrated in the old city and in the municipalities along the banks of the Tejo River and the Atlantic coast. The agglomeration has grown up mainly by gradually absorbing outlying towns. The highest growth rates have shifted from the centre towards the outer districts, mainly towards the north-east.

The city was founded in 1200 B.C. as a Phoenician trading post. Subsequently occupied by the Romans, settled by Muslim forces from Northern Africa for more than four centuries and attacked by the Crusaders, the city fell to the Portuguese in 1147, becoming the capital of Portugal in 1256.

Portugal experienced the longest period of authoritarian rule (the Salazar regime) in modern Europe between 1926 and 1974, during which financial austerity led to declining living standards for much of the population. Since the mid-1980s, Portugal and its capital Lisbon have experienced exceptionally rapid social change and economic growth.

DEMOGRAPHIC CHARACTERISTICS

The population of the urban agglomeration of Lisbon increased from 778,000 in 1950 to 1.86 million in 1995. The average annual rate of population growth of the city was 1.4 per cent during 1950-1960, increasing to 2.3 per cent during 1975-1995. The population of Lisbon is expected to reach 2.2 million by the year 2010.

There has been a significant shift in fertility behaviour in Portugal. The country currently has one of the lowest fertility rates in the world, with a national average of 1.5 children per woman. The crude birth rate in Lisbon decreased from 13.3 per 1,000 in 1982 to 10.3 per 1,000 in 1989. The crude death rate increased from 8.6 to 9.1 per 1,000 over the same period, mainly due to changes in age structure. There were noticeable improvements in infant mortality, which decreased from 16.0 per 1,000 live births in 1982 to 9.9 in 1989.

Lisbon has always attracted large numbers of migrants, both from other parts of the country and from the ex-colonies of Portugal, since it is the only city in the country with broader possibilities for social advancement. However, large numbers of Portuguese citizens still emigrate, seeking better employment and living standards abroad and their remittances are an important factor in the balance of payments.

ECONOMY

The economy of Lisbon is traditionally connected with commerce, since the city is the chief port and transportation centre of the country. It also has many national financial institutions. Among the most important industries are chemicals, petroleum refining, metallurgy, engineering and metalworking (shipbuilding and ship repair, construction of railroad cars and manufacture of heavy metal and electrical engineering products), manufacture of cork, glass, textiles and clothing. The city is also a key processing and distribution centre of the wine industry of Portugal. Fishing and port-related activities are still vital to the economy of the city. The service sector is highly developed, facilitating foreign tourism, which accounts for more than 5 per cent of national gross domestic product.

Revision of the constitution in 1989 removed restrictions on private ownership in industry. The industrial development of Lisbon has subsequently improved, mainly because of foreign investment in the electronics, automotive and paper industries. Construction has regained its important role after shrinking for many years, mainly due to large infrastructure investments, especially in roads and in new factory buildings. There has been a shift towards the services sector in Lisbon over the past decade. Financial and retail services have been booming in the wake of market liberalization. Personal services have grown steadily. Public services in particular have expanded since 1974.

In employment terms, the economy is dominated by small firms. Employment grew during the 1980s, mainly in construction and the services sector. During 1984-1986 unemployment was 8.5 per cent, falling sharply to 5.0 per cent in 1989 and to 4.8 per cent during 1990-1991. Under present laws, dismissal is a difficult and lengthy process, a factor that has kept down the unemployment rate. However, in 1988 a constitutional amendment broadened the grounds for dismissal to include economic and technological changes. In the mid-1980s, employers were given greater scope for using short-term contracts for new employees and a large part of the Portuguese labour force is currently employed under this system.

INFRASTRUCTURE AND SOCIAL SERVICES

The centre of Lisbon has a regular layout, with the rectilinear square of Praca do Comercio facing the river and the Palace of Ajuda. West Lisbon is characterized by modern buildings and includes the district of Buenos Aires and residential areas. East Lisbon, which is situated on the hill where Lisbon was first founded, has an irregular layout and encompasses the remains of Roman walls that are part of an Arab fortress, the castle of St. George and other historical churches and palaces.

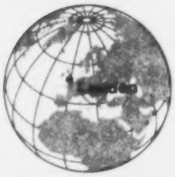
Since the city has limited land area, new housing construction has taken the form of intensive development of multiple-unit dwellings rather than of single-family units. Construction of new housing projects, hotels and offices continues to change the face of the city. The historic centre remains protected from change. However, the four-storey buildings of the Avenida da Liberdade and its ancillary streets have been mostly replaced by 10-storey buildings. New construction is also taking place on the hills and new neighbourhoods have been developed in the northern and north-western sectors of the city. Other development projects to replace decaying neighbourhoods are taking place to the west. While rents in Portugal are mostly controlled and generally very low, market rents and property prices in Lisbon are extremely high.

Throughout the Salazar period, state services were kept to a minimum, resulting in low standards in education, health, public transport and infrastructure. Attempts by the Government to modernize the inefficient and under-funded education, health and social welfare systems after 1974 achieved limited progress. Incidences of illiteracy and infant mortality in the country were consequently very high in the early 1990s, even by southern European standards.

Lisbon has a large number of educational institutions. Education in Portugal is free and compulsory for ages 6-15 years. Primary education lasts for four years, followed by two years of preparatory education. Secondary education is mainly conducted in state lyceums, commercial and industrial schools, but there are also private schools. In 1987, it was estimated that 97 per cent of children in the relevant age group were enrolled in primary and preparatory schools. However, only 40 per cent of children aged 12-18 years were receiving secondary education, compared to an average for the European Community of 75 per cent. Higher education is provided in Lisbon at old and new universities, at polytechnics and at other specialized institutions. Only one in 10 school leavers in Portugal goes on to higher education, compared with the European Community average of one in three. Since 1974, the number of universities and the range of courses have expanded; however, training facilities are still not well developed.

In the health sector, during the Salazar regime, shortages of doctors and hospital beds led to some of the highest general and infant mortality rates in Europe. After 1974 there were major improvements. The creation in 1979 of the national health service, which provides free universal health care throughout Portugal, was critical for health improvements. Health service in Portugal, which is characterized by massive queues at public hospitals, is still insufficient for the needs of a modern state.

LONDON
(United Kingdom)



London, the capital of the United Kingdom of Great Britain and Northern Ireland lies astride the Thames River in south-eastern England. Founded by the Romans as Londonium, the future importance of the city as a political power became apparent at the time of the Norman Conquest in 1066. Once the industrial, commercial and political centre of a wealthy and extensive empire, London continues to be the largest port and the leading centre of international trade, finance and culture of the United Kingdom.

DEMOGRAPHIC CHARACTERISTICS

The population of London is estimated to have grown from 18,000 in 1086 to 200,000 in 1600, to about 675,000 in 1700 and to over 1 million in the census of 1801. The London agglomeration, defined as the south-east economic region in the United Kingdom regional planning, has three zones: London, the suburban zone and the peripheral zone. Like many other Western industrialized cities, London has been experiencing an absolute population decline in the central city and a shift of the urban population to the suburban regions of the agglomeration.

The population of the London urban agglomeration grew from 8.7 million in 1950 to 9.1 million in 1960. After 1960, London experienced a continuing decline in population, to 7.4 million in 1990. During the period 1950-1960, the average annual growth rate of London was 0.45 per cent. From 1960 to 1985, the annual growth rate was negative, fluctuating between -0.51 and -1.08 per cent. The growth of London has been restricted by the enforcement of a green belt around the city. While the population within the green belt has been declining, other areas of the south-eastern region have gained population. United Nations 1994 estimates place the population of the London urban agglomeration at 7.3 million, which is projected to remain the same through the year 2010. Approximately 12.7 per cent of the total population of the United Kingdom resided in the agglomeration in 1992.

ECONOMY

London is a major centre of international trade and finance. Tourism and retail trade are also important sectors of the economy of the city, as are government services. Electrical engineering, and printing and publishing dominate the manufacturing sector. The service sector, including transportation, communications, insurance, banking, finance, business services and public administration, is the main employer in London. London accounts for approximately 14 per cent of the gross domestic product (GDP) of the United Kingdom and 33 per cent of the national GDP arising from insurance, banking and financial services. However, the share of the city in the national GDP has been declining, largely as a result of population losses.

Unemployment is a serious and continuing problem in London. The city has steadily lost manufacturing jobs; for example, during the period 1960-1978, over half a million jobs disappeared. Since the late 1970s, almost 300,000 additional jobs have been lost, unemployment has tripled and more than 500 factories have been closed. In 1988, nearly 1 in 8 people were unemployed throughout London, and the situation in the inner city was worse. Growth in the service sector and population decline did not compensate for the continuing loss of manufacturing employment. London has the second highest unemployment rate in the United Kingdom and the largest absolute number of unemployed in any region of the United Kingdom, with unemployment expected to grow in the near future. The closure and relocation of factories is a major cause of out-migration from the inner city. One counteracting force has been the growth in tourism which has been a source of many new jobs.

INFRASTRUCTURE AND SOCIAL SERVICES

The largest population centre in the United Kingdom for centuries, London expanded rapidly in the nineteenth century to absorb villages over a 15-mile radius. The London conurbation reflects this pattern, with many "urban villages" and suburban town centres. Known as "the square mile", the city of London, which is actually slightly larger than a mile (1.1 square miles, or 2.8 square kilometres), is the core of an area known as Inner or Central London, containing 13 of the 32 boroughs of Greater London or roughly one sixth of the total Greater London area. The focal point of the city is an open space from which eight streets radiate. Despite the high population density in Central London, there are many parks, gardens and churchyards, with squares and commons being prominent features of the landscape of the city. Like many older European cities, London has access to the sea without being situated on the coast.

The outlying areas of the city grew rapidly, partly as a response to the opening of the world's first electric underground railway in 1890. At present, convenient land, sea and air transportation is provided by major road and railway lines which radiate in all directions, by the Port of London Authority which controls dock activity and river traffic, and by the international and domestic airports in the city.

The London urban agglomeration contains more than 100 town centres which function as shopping and public service centres, with easy access by public transportation. The infrastructure of London is ageing and the quality of its housing stock has been deteriorating. Homelessness is also on the rise. Due to high prices, older properties were subdivided and new houses were constructed that are below the standards of those built 40 years ago. Among the environmental problems of the city, traffic noise and air pollution are of major concern.

Car ownership, which has been on the rise in London, is expected to increase further with the construction of an outer ring motorway around Greater London. However, no comparable roads have been built within the urban area. Although there has been a 70 per cent increase in city traffic over the past 20 years, the total road area has increased by only 10 per cent. Public transportation services are of vital importance, since some 1.25 million jobs are concentrated in Central London and approximately 40 per cent of London households do not own cars. The introduction in 1983 of "travelcards" resulted in a 10 per cent decline in commuter use of automobiles in Central London, and a corresponding 16 per cent rise in the use of public transportation. However, the availability of transportation services has not kept pace with demand. As in other parts of the United Kingdom, most expenditure on the transportation system in London is covered by households and firms rather than by the Government, whose public expenditure on transport in London is only about 15 per cent. Moreover, the level of public expenditure allocated to the expansion, adaption and maintenance of the urban transportation system in the United Kingdom has been low. Due to the ageing transportation infrastructure, a high proportion of available funds has been devoted to renewal, repair and maintenance of existing facilities, rather than to their expansion.

A two-tiered administrative structure consisting of the Greater London Council (which covered the metropolitan area) and 32 London boroughs and the city of London (which provided local services), had been replaced by 33 unitary authorities which prepare unitary development plans for their respective areas and which are responsible, individually or collectively, for all local government services. The unitary authorities act more as "enablers" that plan for the provision of services by other agencies rather than as providers of services. The authorities are under pressure to maximize efficiency of those services, mainly by putting work out for competitive bids.

While the 33 unitary authorities provide a sound basis for an efficient local government within London, the role of the city as a world city and the major metropolis of the United Kingdom necessitated the establishment in 1992 of a Cabinet Committee on London to coordinate Government policies concerning the city. A new private-sector organization, the London Forum, was sponsored by the Government to promote London on a worldwide basis, not only as a tourist and cultural centre, but also as a business and financial centre offering excellent opportunities for the potential investor.

Severe social problems exist in the inner city. Parts of London have been aided by special programmes aimed since the 1970s at inner city regeneration. These programmes have met with limited success, despite the considerable financial resources devoted to them; conditions in some areas have not improved, while in others they have actually worsened.

A radical approach to inner city regeneration, known as the City Challenge, was introduced in 1991. Run as a competition, the City Challenge targets smaller areas and commits resources for a five-year period. The bids, which are required to analyse the problems and potential of an area and to submit a proposal which would transform the area over five years, are based on partnerships between the local government, the private sector, local public-sector bodies such as the police or training and enterprise councils, the voluntary sector and the community. The partners supplement the City Challenge grant with their own resources. Acceptance of the City Challenge proposals is based on commitment to output (numbers of jobs created or people trained in new skills) and the value of the project for the money. While it is too soon to evaluate the success of the City Challenge, the response to this innovative project has been positive and the process has had a significant impact. Indeed, bidding ensures that resources are devoted to the areas in which they have maximum impact as well as best value for the money; bureaucracy has been reduced; the value of partnerships has been proven and the empowerment of the local community has boosted citizen morale.

PLANNING ISSUES

In 1940, the Barlow Commission on the distribution of the industrial population recommended the decentralization of industry and population in order to improve living conditions. In the post-war period, Abercrombie's plan, which proposed urban containment, stipulated that the shape of London should be clearly defined and limited, its encroachment on the surrounding countryside halted by a green belt and the urban population within the green belt substantially reduced. While reconstruction in central London progressed slowly in the 1950s, the suburbs enjoyed continuing development due to the rapid expansion of manufacturing industries in those areas. After 1960, the planners of London were increasingly concerned with stabilizing, or at least curbing, the rate of population and employment decline in central London.

The post-war planning strategy of the United Kingdom was to divert industrial growth and residential migration from London to subregional nodes in the south-eastern economic region, addressing urban growth in terms of urban systems and regions. This was to be achieved through the establishment of new towns around the central city. The most recent south-eastern plan addressed outmigration of Londoners to the suburbs. These strategies combined economic planning and land-use legislation, and established agencies and funding mechanisms to implement policy. Development corporations were also established to construct and develop new towns. Funding was provided by the central government and the legal means for implementing policy were clearly defined in legislation. Planning in London has encouraged the development of five major growth regions within the agglomeration, aiming to curb extensive sprawl and suburban growth. The result has been the development of a region with several strong agglomerations which act as counterbalances to London.

LOS ANGELES
(United States of America)

Los Angeles

Los Angeles is one of the most populous metropolitan area in the United States. Founded in 1781, the city experienced considerable growth after 1880 with the construction of the transcontinental railway, enabling the region to export its citrus fruit to cities in the east. Population growth in Los Angeles preceded and created economic expansion, rather than following it, as in cities in the north-east and mid-west of the United States.

Los Angeles provides a particularly striking example of a polycentric urban system, with over 100 municipal authorities within its boundaries, spread out over a very large area (1,202 square kilometres). The city has a diameter of about 120 kilometres and is located in an earthquake-prone zone. Business and shopping areas are distributed widely over the urban landscape and the city as a whole is linked together by an extensive network of urban superhighways. The relative uniformity of population densities and the existence of multiple urban centres has blurred the distinction between "city centre" and "suburb" in Los Angeles.

DEMOGRAPHIC CHARACTERISTICS

In 1887 Los Angeles was a small town of 11,000 inhabitants, growing to 1.2 million by 1930, with another 1 million suburbanites living in Los Angeles. The Los Angeles urban agglomeration grew from 4.0 million in 1950 to 12.4 million in 1995. The average annual rate of population growth declined from a high of 4.8 per cent during the period 1950-1960 to 1.3 per cent in 1970-1980. During 1980-1990, the rate of population growth was 1.8 per cent and declined during 1990-1995 to 1.6 per cent.

In-migration from other states and countries has played an important role in the growth of Los Angeles, especially before and during the Second World War. Before the 1930s, many migrants to southern California came for health reasons or accompanied a relative who had migrated for such reasons (the dry sunny climate of the area was prescribed for many ailments, especially respiratory disorders). In addition, war industries attracted many migrants and when the war ended many soldiers settled down in the city after being discharged. (While 5 per cent of all American troops were drafted in California, about 9 per cent were discharged in the state.) During its period of most rapid growth (1940-1950), the population density of the region increased by 55.9 per cent. In 1940-1948, migration accounted for 80 per cent of population growth in Los Angeles County, while natural increase was responsible for only 20 per cent. Between 1960 and 1970, over half of the population growth of the region was due to in-migration (1.17 million out of a total of 2.23 million). In 1980, only 51.4 per cent of the population of the region had been born in the state.

ECONOMY

Los Angeles is one of the most important industrial and financial centres in the United States. The city has a diversified economy and over 60 per cent of the largest companies in California have their head offices in Los Angeles. The most important activities include aeronautical, petroleum and film industries. Manufactured materials range from petroleum, chemicals, food products and construction materials to advanced industrial products such as aircraft, space engines, telecommunications equipment, precision and control instruments, and electronic and computer components. In recent years, the importance of the service sector, particularly financial services and services to industry, has increased. Tourism has always been an important industry in Los Angeles. In 1981, for example, over 100 million visitors spent US$8.8 billion in the Los Angeles area. The city is also a major port and distribution centre. In 1980, 93.7 per cent of the economically active population of 3.7 million were employed; 29.6 percent were employed in manufacturing (including construction and public works) and 69.3 per cent were in services (including public administration). In the same year, per capita income in the Los Angeles region was US$8,360 and 9.2 per cent of households had income below the poverty threshold. Unemployment, poverty and social integration are among the major challenges facing the city.

LOS ANGELES

INFRASTRUCTURE AND SOCIAL SERVICES

Historically, Los Angeles has been characterized by much lower population density than other major cities in the United States. In 1980, population densities in the city and metropolitan area were 3,945 and 1,146 inhabitants per square kilometre, respectively. In recent years, however, in response to rising land values, there has been a shift towards higher density multi-storey building construction, both in the city centre and in residential areas. The proportion of high-rise and semi-high-rise dwellings increased from 31 per cent in 1965 to 37 per cent in 1979. In 1980, there were 4.4 million dwellings in the entire metropolitan area, of which 3.2 per cent were considered rural. Almost all the dwellings (99.2 per cent) had running water, 93.3 per cent were connected to the sewerage system and 39.9 per cent had at least 3 rooms. Most dwellings have been built in recent years; only 13.4 per cent of the dwellings were built before 1940 while 23.5 per cent were constructed during the period 1970-1980. A study conducted in 1985 found that many single-family units in east Los Angeles sheltered multiple households, with more than one third of all housing meeting the definition of overcrowded (more than one person per room). Heavy in-migration of unskilled workers into the region has increased the shortage of low-cost housing.

Private automobiles are the main means of transportation in the Los Angeles area (as early as the late 1920s, about 800,000 vehicles had been in circulation). By the end of 1970s, about 97 per cent of journeys in the region and about 90 per cent of journeys to work were by private cars. The car ownership rate is more than one vehicle per family. The large number of private automobiles has led to growing traffic congestion and serious air pollution. Recently, there has been increasing emphasis on relieving traffic congestion, which is widespread throughout the city. The measures taken to date include promotion of car pools, express bus service and a network of cycle ways. Buses are the main means of public transport. In 1983, the system included 2,960 buses and ran 200 regular bus lines covering a network of over 8,000 kilometres. As of 1988, less than 10 per cent of the population of the region used the bus system to commute to work. City sprawl has constrained the development of public transport. During the period 1971-1981, due to measures in support of public transport, the number of passengers per year more than doubled (from 197 million to 397 million).

Los Angeles faces a number of serious environmental hazards. Since the 1950s, air pollution has been a very serious problem in the region. According to one index, air quality is unhealthy on two out of every three days. The climate in the region is unusually subject to inversions which trap atmospheric pollutants and produce smog. When the smog level becomes excessive, the authorities issue a smog alert, during which factories are asked to stop burning fuel oil and people are requested to drive only if necessary. Many areas are subject to flooding during heavy rainfall, in spite of extensive drainage works. Fire risks are increased by the interspersing of building and open spaces, exacerbated by large areas of brushwood and hot dry winds. Houses built on unstable slopes are in danger of landslides during the rainy season. Los Angeles lies in a region of earthquake activity. In 1971, an earthquake just north of the city limits caused 65 deaths and extensive property damage. In 1987, another earthquake centred east of the city limits caused 3 deaths and considerable property damage. Water supply in the region is inadequate to support the growing population. Since the early 1900s, Los Angeles has obtained large amounts of water from distant locations by means of aqueducts.

The first comprehensive sewage system plan in Los Angeles was developed in 1887; since then, the management of waste water has resulted in a very complex system of sewers and treatment plants that collect, treat and dispose of waste. Expected population increase would require building much more infrastructure and increasing the capacity of current facilities. In 1988, the Clean Water Program of the city initiated a long-range planning process that would provide for future growth and incorporate waste water management into a comprehensive water resources strategy.

Plans were developed that anticipate future growth but are flexible enough to locate the facilities where growth actually occurs. In addition, as it is easier and cheaper to use water repeatedly than to find new sources, a high priority has been placed on reclaiming and reusing water. New uses for sludge are also being explored—as fuel for combustion, as a soil amendment, or as landfill cover—so that it is not dumped into fragile coastal waters.

PLANNING ISSUES

Traditionally, Los Angeles has attempted to attract migrants and this has played a major role in the development of the city. In recent years, however, due to the increase in unemployment and poverty, and the shortage of services, such as low-income housing and water supply, there has been growing concern for limiting in-migration. In 1980, for example, the County of Los Angeles General Plan was adopted, aiming to control city growth and protect the environment. The main principles of the Plan included promotion of concentrated urbanization in order to reduce the costs of urban services, to cut energy consumption, to protect natural resources and to achieve moderate population growth roughly equal to natural increase.

LUANDA
(Angola)

Luanda is the national capital of and the largest city in the People's Republic of Angola, as well as its major shipping and manufacturing centre. The city was founded as a Portuguese colony by Paulo Dias de Novaes in 1576. The Dutch occupied Luanda from 1641 to 1648. Angola gained independence from Portugal in 1975.

The metropolitan area is located on the coast in two of the 18 provinces of Angola—Luanda and Bengo. The city is growing rapidly due to a continual influx of refugees seeking safety from the ongoing civil war that has waged since independence. The war has significantly affected the population, economy and infrastructure of Luanda.

DEMOGRAPHIC CHARACTERISTICS

The population of the urban agglomeration of Luanda exceeded 2.2 million in 1995 and contained one fifth of the population of Angola. The infant mortality rate is 84.4 per 1,000 live births; the mortality rate for children under five is 167.2 per 1,000 live births. Demographic expansion was slow until 1940 when the population of the city reached only 61,000. Between 1950 and 1960, the average annual rate of population growth in Luanda was 4.6 per cent. The rate of growth increased significantly in the succeeding decades, reaching 7.5 per cent per annum between 1965 and 1975. By 1970, the population of Luanda had reached 500,000. The rapid increase is attributed to rural-urban migration of people seeking both safety and work in the city. The current rate of population increase in Luanda is in constant flux due to migration of war-afflicted populations.

Two other mass movements of people have affected the metropolitan area. Of the 150,000 recently demobilized Angolan soldiers, most returned to urban areas. On the other hand, large numbers of Cuban teachers and doctors left Luanda. Since 1975, approximately 90 per cent of the Portuguese population in Angola have departed; at the present time, Portuguese nationals account for 1 per cent of the total population.

ECONOMY

Petroleum refining is the most important industry in Luanda. In 1985, petroleum accounted for 95 per cent of the exports and 35 per cent of the gross national product of Angola. The petroleum industry is the only sector of the economy that remains relatively unscathed by the war, and its revenues are being used mostly for food imports.

Agriculture has traditionally been an important component of the economy of both Angola and Luanda, although the war has interrupted food production and has caused severe food shortages in a country that was at one time almost completely self-sufficient. Manioc and maize are grown for local consumption. Coffee, sisal, sugar cane, cotton, timber, cassava, yams and bananas are exported from Luanda, as are various minerals in Angola from its deposits of petroleum, manganese, diamonds, iron ore, copper, phosphates, salt and uranium. A dramatic decline in exports has been detrimental to the role of Luanda as a seaport. The country used to be among the world's largest coffee producers but currently exports only 11,000 tons, compared to the 1974-1975 exports of 225,000 tons.

In 1961, after the Portuguese Government relaxed many long-standing restrictions on foreign investment in the colonies, money flowed to Luanda for agriculture, heavy industry, manufacturing and construction. Development in these areas came to a halt, however, after the post-independence Government was installed and civil war broke out in 1975. Luanda encountered a human resources problem due to the emigration of highly skilled Portuguese workers from all sectors of the economy, coupled with large numbers of native workers entering military service. The new Government initiated a transition to a socialist economy and nationalized key sectors of the economy, including the petroleum industry.

The Government embarked on a major economic reform programme in 1988, moving towards a market-oriented economy that would encourage foreign investment. Implementation of reforms has been hampered, however, by insurgency. In 1990, the economy of Luanda was bolstered when the small business sector was opened to private enterprise and the agricultural and industrial sectors were opened to joint ventures with international firms.

INFRASTRUCTURE AND SOCIAL SERVICES

All central government administrative facilities are located in Luanda. The city also houses an international airport and the second largest seaport in Angola; it is linked to the province of Malanje by rail. The quality of the urban environment in Luanda is rapidly deteriorating due to insurgency, and infrastructure is severely strained. Basic conveniences and amenities are no longer attainable, even for those who can afford them.

A large hydroelectric power project at Cambambe supplies the power for manufacturing in Luanda. Ninety per cent of the urban population of Angola have access to drinking water, compared to 12 per cent in rural areas. Only 9 per cent of the urban population have adequate sanitation.

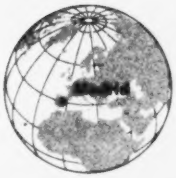
The seaport of Luanda is in disrepair. It has berths that can accommodate 11 ships, but only a few are in operation. The volume of freight handled in 1986 was 30 per cent of those handled in 1973. The state-run national airline, Angola Airlines, operates out of Luanda. Only a few taxis or other means of public transportation are available due to lack of spare parts.

Mass migration to the city has caused a severe housing shortage in Luanda. During the colonial period, the lower part of Luanda (towards the sea) was cleared out to develop a European business district. As a result, Africans moved to the hills surrounding the city where shantytowns sprang up and remain to date. The housing problem has been greatly exacerbated by the civil strife that has driven thousands of rural dwellers to seek safety in the city. The number of people living in the shantytowns of Luanda is estimated at 447,0000. These mostly internally displaced persons live in neighbourhoods comprised of large apartment blocks with little or no water or sanitary facilities. In light of the existing housing shortage, resettlement and reintegration of refugees and returning soldiers have become the most pressing problems of Luanda.

Although health and educational institutions have been affected by the shifting of funds to finance the war, significant advances have been made since 1975. Trained medical personnel are in chronic short supply, and hospitals have to contend with poor sanitation, lack of basic equipment and disruptions in water and electrical services. The metropolitan area is the best served in the country, although 70 per cent of births occur outside health-care facilities. The immunization coverage rate for Luanda is 45 per cent, largely due to the success of its universal child immunization programme. Seventy per cent of Luandan women can correctly perform oral rehydration therapy.

The war has drained funds for schools, books, equipment and teachers, but the Government has given education high priority. An eight-year education programme is required until age 15. The Angolan Women's Organization, established for the advancement of women, and the national youth organization have implemented extensive programmes of family life education, sex education and family planning. They have also effectively supported national literacy campaigns. The only university in the country, Luanda Agostinhoneto University, had an enrolment of 4,493 students in 1984, which dropped to 3,195 in 1986.

MADRID
(Spain)



Madrid is the capital of and the largest city in Spain. Located near the geographical centre of the country, it has been the national capital since the sixteenth century. The central city occupies an area of 605 square kilometres, with a population density of about 5,048 per square kilometre in 1985. Madrid suffered severe damage during the Spanish civil war (1936-1939). Since then, the city has been reconstructed or restored from the wartime ruins. In 1986, the metropolitan area spread over an area of 8,027 square kilometres and had an average population density of 596 per square kilometre in 1986. After Spain joined the European Economic Community (EEC), Madrid became an important international commercial centre.

DEMOGRAPHIC CHARACTERISTICS

Since 1950, Madrid has experienced rapid population growth. The population of the Madrid urban agglomeration grew from 1.55 million in 1950 to 5.24 million in 1990. Population growth rates were in excess of 3.5 per cent per annum between 1950 and 1970, falling below 2.5 per cent after 1975. Among the factors contributing to this growth were Government programmes to develop industry and to build modern housing and office buildings, which attracted many migrants to the city. In 1975, for example, almost 50 per cent of the population were born outside the province of Madrid. In recent years, however, the region has exhibited both lower in-migration and lower natural increase. During the period 1961-1970, there was net migration of 678,000 persons, declining to 254,000 during the next decade (1971-1980). The decrease in migration has been attributed to an exhaustion of the supply of out-migrants and socio-economic changes in different regions. The main reason for the decline in natural growth is the reduction in the birth rate (family size declined from 3.7 persons in 1970 to 3.3 in 1980).

Within the urban agglomeration, Madrid municipality has been losing population, but the municipalities surrounding the city have been expanding. From 1975 to 1981, for example, the inner city was losing population at an average annual rate of -3.4 per cent. In other parts of the metropolitan area, some municipalities experienced limited depopulation, while other places experienced population growth. The area of greatest growth is the exterior ring of municipalities that make up the agglomeration.

The proportion of elderly is rather high in the central districts of Madrid. On the other hand, new districts are populated by immigrant populations with a relatively young age structure.

ECONOMY

Since the mid-1900s, the Government has encouraged industrial development in Madrid and its suburbs. The economy of the city is heavily based on employment in the central government administration, the head offices of national and international companies, and banking. There is a substantial industrial sector, with increasing production of electric and electronic materials, processed metal goods, chemicals and graphical arts. Tourism is also an important industry. In 1981, the economically active population of the Madrid metropolitan area was 1.68 million, of which 84 per cent (1.4 million) were employed. Most employment was in services (63 per cent, including public administration) and industry (26 per cent, including mining). The service sector accounts for almost 70 per cent of regional production. The most dynamic sectors are advanced services such as financing and service companies for the consumer market.

INFRASTRUCTURE AND SOCIAL SERVICES

Due to rapid population growth after 1950, Madrid has expanded in all directions. Residential areas and industrial suburbs surround the central city. Crowded living conditions and air pollution are among the major problems of the city which can be attributed to rapid population growth. Although the population of Madrid is expected to grow slowly in the next decade, due to increase in one-person family units, more housing is likely to be required in the near future. In recent years, the growth of housing in Madrid has not kept pace with demand. The average annual growth of the housing stock of Madrid declined from 5 per cent in the 1970s to 1.8 per cent in 1980. The shortage of housing has led to increased construction and rental costs.

The municipalities surrounding central Madrid are inadequately served in terms of shopping and recreational and service facilities, which are generally concentrated in the central city. The surrounding municipalities are connected to Madrid by radial roads but often lack effective connecting roads. The rapid development of the 1960s and 1970s has left many new suburbs without business and retail centres, resulting in excessive traffic flowing in and out of the central city. Madrid has a comprehensive metro system with lines extending throughout the city. In 1989, the system had 10 lines, with a total length of 113 kilometres. Madrid is the most important centre of higher education in Spain and has several major universities.

POPULATION POLICY

The Government considers fertility to be an individual matter and has no explicit policy of intervention regarding population growth. In regard to spatial distribution of population, one of the Government's main objectives is to reduce internal migration. Government policies are concerned with limiting urban growth, promoting intermediate cities and revitalizing rural areas. Various programmes aimed at increasing the level of services, employment and standards of living in rural areas have been implemented in order to reduce rural-urban migration.

MAPUTO
(Mozambique)

In 1776, Portuguese explorers sailed into Cape Delagoa Bay and established their first East African settlement. In less than a year, they were expelled by a group of Austrians who had come to build a fortress. The Portuguese returned in 1781, took control of the coast and named their settlement Lourcenço Marques, in honour of the fourteenth century navigator who first chartered the bay. In 1907, the city became the capital of Portuguese East Africa. In 1976, 200 years after being founded, the name of the city was changed to Maputo as part of a campaign of Africanization that followed independence.

Maputo is the capital of and the largest city in the Republic of Mozambique. The early growth of the city was stimulated by its role as one of the largest ports in Eastern Africa and by its proximity to both good roads and a railroad line. In recent years, development of Maputo has been largely shaped by the 16-year civil war that has ravaged the countryside. Of its 1.6 million residents, it is estimated that about 25 per cent are displaced rural villagers. On 19 April 1992, a peace accord was signed that ended the civil war and that is expected to have a significant effect on Maputo by both decreasing migration to the capital and by possibly allowing some residents to return to their former villages.

DEMOGRAPHIC CHARACTERISTICS

The population of the urban agglomeration of Maputo grew from 91,000 in 1950 to 755,000 in 1980 and to an estimated 1.6 million in 1991. The average annual rate of population growth increased from 6.9 per cent during 1950-1960, to 7.2 per cent during 1960-1985, and has exceeded 7.5 per cent in subsequent years, owing to the heavy migration of displaced persons from rural areas. The growth rate in Maputo during this period has been among the highest in the world. This is reflected in the percentage of the population living in the capital city: more than 10 per cent in 1990, compared to 1.5 per cent in 1950. In 1989, the population density of the city was estimated at 1,700 inhabitants per square kilometre, compared to a national average of 19.2 inhabitants per square kilometre.

In the late 1980s, life expectancy in Maputo was 42 years for men and 45 years for women; total fertility was 5.7 births per woman; infant mortality rate was at 200 deaths per 1,000 births.

ECONOMY

Since 1980, economic conditions have steadily deteriorated owing to the effects of a prolonged guerrilla war, drought, floods, famine, a large population of displaced persons, and a scarcity of skilled workers. In 1980, Mozambique was the ninth poorest country in the world, with a gross national product (GNP) capital of US$180. By 1990, GNP had dropped to US$80 per head, making it the poorest country in the world.

In times of stability, agriculture is the mainstay of the economy, employing up to 90 per cent of the economically active population and accounting for 80 per cent of exports. Even though only about 5 per cent of arable land is cultivated, agriculture generally accounts for about 45 per cent of GDP. Major crops include cashew nuts, sugar cane, cotton and tea. The agricultural sector has been especially hard-hit by the civil war. An estimated 3 million people have been prevented from farming their lands and it has been difficult to get crops to market due to lack of safe transport. There also have been problems with drought, floods, cyclones and insect pests which have destroyed agricultural production in several regions.

Mozambique also has a small industrial base, mostly devoted to the processing of primary materials, 47 per cent of which are located in and around Maputo, and which account for about 10 per cent of GNP. Due to the exodus of skilled workers, lack of spare parts and the security situation, this sector produces only about 50 per cent of its pre-1975 level. As of 1989, most industrial products were imported from South Africa.

In 1987, an economic recovery programme was launched with the aim of increasing economic efficiency and liberalizing the economy. Early indicators show that the recovery programme is helping; in 1990 inflation had fallen to 30 per cent from a high of 160 per cent, and the economy had positive growth of 5 per cent after experiencing negative growth for most of the previous decade.

INFRASTRUCTURE AND SOCIAL SERVICES

Originally built for a population of 300,000, Maputo now houses over 1.6 million inhabitants, the majority in self-built shelters without access to sanitation services. Even before the war forced large numbers of rural villagers into the city during the 1980s, Maputo services were already inadequate in 1980, only 20 per cent of inhabitants had access to basic infrastructure.

In the late 1980s, about 48 per cent of households were considered permanent and 52 per cent were labelled "precarious" or temporary housing. Of these, only about 50 per cent had access to safe water. In 1990, partly due to a lack of planned construction, dwellings designed for a single couple often housed large extended families numbering up to 20 people. In the period 1975-1985, during which over 500,000 migrants moved to the city, the Government built only about 5,000 houses.

About 90 per cent of the population of Maputo live in poverty, with 60 per cent of those in absolute poverty, lacking access to basic health and sanitation services. Because these services are insufficient to meet the needs of the growing population, there have been sporadic outbreaks of cholera, as well as diarrhoeal and parasitic diseases. The overall health condition of the population is very poor; 50 per cent of children suffer from malnutrition, anaemia is a major problem, and many die of respiratory diseases and measles. Currently, one in three children die before reaching the age of five.

Maputo also has serious waste collection problems. In downtown Maputo, piles of garbage often fill vacant lots, creating a danger of disease, especially during frequent heat waves. Before 1975, the city had about 40 garbage trucks but due to financial difficulties, old trucks were not maintained and new trucks could not be purchased. As a result, the city had only five trucks operating as of 1989. Public transportation faces a similar problem. In 1985, there were 196 buses; by 1990 only 25 remained, forcing commuters to rely on the informal sector for their transportation needs.

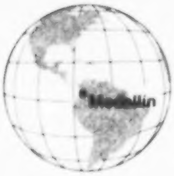
PLANNING ISSUES

The official policy towards the growth of Maputo is to reduce the flow of migrants from rural areas, principally by promoting rural development through agricultural development strategies. These strategies include establishing communal villages and building up basic services and infrastructure in farming communities.

There also has been a policy of directing development away from Maputo and of concentrating heavy industry in Beira, the second largest city. To make cities more self-sufficient in food production, farming was encouraged in nearby "green zones". The Government also moved "unproductive" and unemployed people into these areas.

As a consequence of the extended drought, the security situation and the destruction of the countryside, large numbers of migrants keep moving to urban areas, especially to Maputo. Additionally, the Government's policy of fixing rents on the basis of a family's income, approximately 2 per cent of monthly income, is believed to have contributed to the massive influx of people to the capital.

MEDELLIN
(Colombia)



Medellín is the capital of Antioquia, Colombia's largest department, situated north-west of Bogotá. It is located in the Aburrá Valley, the hydrographic basin of the Medellín River, surrounded by steep mountains. The city was founded in 1675 and is currently the second largest city in Colombia. The metropolitan area of Medellín includes 9 other municipalities: Bello, Copacabana, Giradota, Barbosa, Envigado, Itaguí, Sabaneta, La Estrella, and Caldas which, together with Medellín, constitute the Metropolitan Area of the Aburrá Valley (AMVA), officially created in 1980.

DEMOGRAPHIC CHARACTERISTICS

Until the 1940s, the population of the Aburrá Valley grew slowly, from approximately 14,800 in 1835 to 59,815 in 1905. With the expansion of coffee cultivation and the beginnings of industrialization, the annual rate of population growth of Medellín increased; during the intercensal periods 1938-1951 and 1951-1964, the urban population grew at rates of 6.8 and 6.7 per cent per annum, respectively. Economic growth encouraged migration from rural areas of Antioquia to metropolitan Medellín. Between the 1940s and the early 1960s, urbanization increased rapidly. During the 1960s, population growth declined, primarily due to an intense family planning campaign, coupled with a decrease in in-migration. The average annual rate of population growth in Medellín decreased from 5.8 per cent during 1950-1965 to 1.9 per cent during 1975-1995. According to the *1994 Revision*, the population of Medellín increased to 1.7 million in 1995 and is projected to reach 2.2 million by the year 2010.

Medellín has experienced a marked decline in fertility, with the crude birth rate declining from 45 births per 1,000 population in 1951-1964 to 26 per 1,000 in 1985-1990. The decline in fertility was responsible for a decline of 28 per cent in the rate of natural increase between 1965 and 1970.

The urban and socio-economic structure of the Aburrá Valley has been shaped by the massive exodus of peasants from the surrounding areas and by the effects of migration into the valley. Between 1964 and 1973, Medellín was the chief migration destination and its population growth was much higher than that experienced by the other municipalities in the metropolitan area. Eventually, people began to migrate in larger numbers towards the surrounding municipalities. Between 1973 and 1985, Medellín experienced a decrease in rates of population growth at the same time that the surrounding areas were experiencing increases in their growth rates. As a result, the difference in the rates of population growth between Medellín and the surrounding municipalities became less pronounced. It has been estimated that by the end of the twentieth century, growth rates in the remainder of the metropolitan area will be twice the rate of growth of Medellín. However, a decrease has been observed in migration towards the Metropolitan Area of Aburrá Valley as a whole.

ECONOMY

Medellín remained a gold mining centre from 1650 to 1850, at which time the output of the mines began to experience a decline. The mining era was followed by the development of a fledgling industrial base, coupled with the rapid expansion of coffee cultivation and exports, which lasted from approximately 1900 to 1930. The colonial gold mining experience was a significant one in that it fostered an enterprising attitude towards financial risks, as well as a spirit of cooperation. Before being directed into coffee cultivation and textile production, the capital accumulated from gold exports permitted the financing of commercial enterprises throughout Colombia. Later, coffee cultivation stimulated an internal consumer market and enabled the financing of large-scale industrial enterprises without resorting to foreign investment. The area was transformed from a mining-agricultural hub into an important industrial, commercial and financial centre, specializing in textiles, tobacco, food, beer and auto production. Besides being the administrative centre for the Department of Antioquia, Medellín is also an important educational centre, with two universities and several colleges.

Handicapped by geographical barriers and by rudimentary transportation links to outside markets, the metropolitan area of Medellín experienced a decline in industrial expansion at the expense of other industrial centres in Colombia, which increasingly compete with the Antioquia region. While industry no longer contributes its once-large share of the gross domestic product of the country, commercial activity has developed to the point where it now employs about 23 per cent of the economically active population. Despite its continuous growth, however, the economy is not able to absorb the working-age population, resulting in an increase in informal activities, job and financial insecurity, delinquency, as well as increasing inequality within Antioquia.

INFRASTRUCTURE AND SOCIAL SERVICES

As a result of rapid population growth, the provision of public services in Medellín has not been able to keep pace with increasing demand. Scarcity of land resulted in squatting and pirate suburbs with precarious living conditions. Housing construction has not been able to respond to demand, resulting in severe housing shortages. Many homes lack adequate basic facilities such as water, electricity and toilets. However, housing problems in Medellín are less acute than those of other major Colombian cities; in 1975, the population living in substandard housing was estimated at 10 per cent in Medellín, compared to 14 per cent in Bogotá, and 35 and 58 per cent in Cali and Barranquilla, respectively. The comparably favourable position of Medellín is due in part to the *Instituto de Crédito Territorial*, which made considerable investments in low-cost housing, and to the large textile factories in the metropolitan area, which provided workers with the opportunity to purchase low-cost company housing near the mills.

Medellín surpasses other major urban centres in Colombia in the availability of water, electricity, sewerage and telephone service. The high quality of municipal services is due in part to a revenue collection system which is more efficient than that found in other urban centres in Colombia; indeed, per capita municipal revenues collected in Medellín are twice those of Bogotá and almost three times those collected in Barranquilla.

Transportation remains a critical issue, particularly given the steep topography of the city. Similar inequalities exist in other areas, such as education and health care. A lack of facilities has forced school authorities to hold classes in two shifts.

PLANNING ISSUES

Construction of a water supply network influenced private urbanization in the north-eastern section of Medellín between 1910 and 1940; eventually, the construction of an electric transportation system interrupted the concentration of activities around the historical nucleus. As of 1940, a process of urban sprawl from Medellín towards the neighbouring municipalities could be observed. This process accelerated between 1949 and 1963, eventually incorporating satellite municipalities into one large metropolitan area. Since land was scarce, its use was necessarily limited to housing, at the expense of other activities. As a result, the surrounding municipalities became veritable dormitory towns. Moreover, the growing process of "metropolitanization" caused original municipal boundaries to overflow, changing the relationship between the different territories and necessitating a change in the legal and administrative structure of the area. Comprehensive planning was also hampered by the fact that both departmental and municipal governments suffered from a weak power base and lacked the authority to deal with region-wide problems, especially because of the lack of fiscal autonomy.

In the 1960s, an effort at integration compelled all municipalities of the Valley to work together through the Associated Municipalities of the Aburrá Valley. In the 1970s, the Metropolitan Plan Bureau was created, and private and governmental agencies in Medellín began to study, plan and implement a series of programmes designed to curb the expansion of industry in the Aburrá Valley and to establish future plants and subsidiaries in the eastern Municipalities of Rio Negro and Guarne.

In 1980, a new legal administrative body, the Metropolitan Area of Aburrá Valley (AMVA) was officially put into operation in Colombia. Its main objective was to provide balanced development of the municipalities of the Valley and to facilitate the relocation of some economic activities to other municipalities, by promoting industry and decentralizing official institutions. AMVA is faced with a number of major problems, including: poverty, unemployment (in 1984, AMVA had an unemployment rate of 17.2 per cent), rising costs of food (which is increasingly brought in from outside the department), housing shortages and an educational system that cannot provide universal primary education; ecological imbalances, including loss of green areas, pollution and inadequate water supply in certain areas; and technical difficulties in extending public utilities to other areas, due to the increase in the cost of services.

MELBOURNE
(Australia)

Melbourne is situated on the south-eastern coast of Australia at the head of Port Philip Bay at the mouth of the Yarra River. It is the second largest city in Australia and the world's southernmost urban area with more than 1 million population. Melbourne was capital of Australia from 1901 to 1927; currently, the city is the capital of the state of Victoria.

Founded in 1835 by private citizens from Tasmania, the city was later named after the British Prime Minister, Lord Melbourne. Until 1851, Melbourne was a principal town of a large pastoral and agricultural district, but the discovery of gold completely changed its character. Currently, Melbourne serves as the seat of government and the financial centre of Victoria. The hub of the communications network which links Victoria to the rest of Australia and to the world, Melbourne is also the busiest general cargo port of the nation.

DEMOGRAPHIC CHARACTERISTICS

According to the first official census of Melbourne conducted in 1836, there were 177 inhabitants. The discovery of gold in the state of Victoria resulted in the first major wave of in-migration to the city, which originated mainly from other Australian colonies and from the United Kingdom of Great Britain. Between 1851 and 1854, the population of Melbourne increased fourfold. Indeed, Melbourne took only 7 years to become a town and 12 years to become a city. By the 1920s, more than 50 per cent of the residents of Victoria lived in Melbourne, and towards the end of the Second World War, the population had reached 1 million. The second major wave of in-migration came during the 1950s, when the Australian Government pursued a policy of encouraging immigration from Europe to provide workers for the developing industries of the country.

The population of Melbourne grew from 1.3 million in 1950 to 2.3 million in 1970 and to 2.7 million in 1980. As the population of the city grew, the city limits were pushed rapidly eastward. In the 1940s, approximately 90 per cent of Melbourne residents lived within 10 miles of the central business district; by the 1980s, this proportion had fallen to less than 50 per cent, with the outer suburban areas growing correspondingly. Melbourne experienced a net intra-state migration loss of 25,400 to non-metropolitan areas of Victoria during the period 1981-1986. Combined with its net inter-state migration loss, which totalled 25,500, Melbourne lost a total population of 50,800 to out-migration during that period.

Melbourne, more than any other city in Australia, has been transformed by 40 years of post-war migration; according to the 1986 census, 27.8 per cent of its population had been born overseas. By 1976, one fifth of the population of Melbourne regularly spoke a language other than English.

The United Nations *1994 Revision* placed the population of the Melbourne urban agglomeration at 3.1 million in 1995, projected to reach 3.4 million by the year 2010. Approximately 17 per cent of the total population of Australia resided in the agglomeration as of 1995.

ECONOMY

As the centre of major financial institutions, Melbourne dominates economic life in Victoria. Leading industries include metal processing, engineering, textile and clothing manufacture, food processing, papermaking and printing, and the manufacture of chemicals and building materials. Melbourne is also one of the leaders in the manufacture of computers.

The industrial importance of the inner city has been declining as new activities, including production of automobiles, rubber goods, chemicals and refined oils, have been established in the outer suburbs. Although the central city offers the most employment, job opportunities are increasing at a more rapid rate in the outer suburbs. The central city contains service industries such as banking, insurance, retailing, entertainment, public accommodations and railway transportation. Surrounding the central city is an incomplete ring of inner industrial suburbs, where the first clothing and metal factories were established in the nineteenth century. The outer suburbs, especially to the east, began to see the development of small manufacturing areas after the Second World War, during a period when the population was increasing, land was inexpensive and traffic was not a problem. Large regional shopping centres are located in the rapidly growing eastern and southern suburbs.

The port of Melbourne, the largest general cargo port in Australia, is located at the mouth of the Yarra River, south-west of the central business district. Among the chief imports which pass through the harbour are newsprint and paper, iron and steel, chemicals, machinery, motor vehicles and textiles; chief exports include wool, petroleum products and food products.

INFRASTRUCTURE AND SOCIAL SERVICES

The heart of Melbourne is located on the northern bank of the Yarra River, 5 kilometres from the bay. The area of original settlement was laid out in a rectangular pattern that has not changed over the years. At present, this area forms the financial, legal and administrative centre of the city. Circled by parks and sports fields, it has developed asymmetrically, with the western shores of the bay relatively underdeveloped in comparison to the residential eastern shore.

The older suburbs are characterized by a generally rectangular pattern of streets. Row houses, often with verandas decorated with iron lacework, were common in suburbs close to the inner city; these traditional terraces can still be found in some suburbs at present. Most contemporary houses are detached and are constructed of brick rather than clapboard, which was commonly used until the 1940s.

Public transportation in Melbourne consists of electric trains, buses and tramcars. An underground loop, which extended the service of the suburban electric railways, was opened in 1981. As of the late 1980s, some 20.6 per cent of commuters used public transportation. The road network of Melbourne spans over 21,300 kilometres. Improvements to the network in the 1970s and 1980s have made commuting by private automobile an alternative to public transportation. Moreover, the opening of Westgate Bridge over the lower Yarra River has linked the western and south-eastern suburbs by a route that avoids the heart of the city. The port of Melbourne serves overseas passengers in addition to freight; air passengers are serviced by an international and domestic airport located north-west of the city centre.

METRO MANILA
(Philippines)

Metro Manila

Manila traces its origins to a small seaport established in the twelfth century at the mouth of the Pasig River. Captured by Spain in 1570, the wealthy Muslim kingdom of Maynila was proclaimed capital of the Philippines. Manila remained under Spanish tutelage for nearly four centuries, exporting agricultural products to the metropolis in exchange for finished goods.

In 1898, in the aftermath of the Spanish-American War, the Philippines was ceded to the United States of America. From the outset, the goal of American policy makers was to integrate the new colony into the American market. Towards that end, the Philippines continued to specialize in products that gave it comparative advantage (i.e., primary products), rather than developing a broader economic base. By the late 1930s, however, there was a decline in the agricultural sector of the country, mainly as a result of external factors, and an increase in industrial output. The capital region began to show significant potential as a base for the impending industrial take-off of the country. Following independence in 1947, there was a major shift in the Philippine economic policy from export promotion to import substitution. The main beneficiary of the import-substitution policies was the capital region whose comparative advantage was increasingly strengthened, largely by means of various monetary and fiscal measures—e.g., exchange and import controls, tax incentives for "new and necessary industries" and tariff restrictions.

DEMOGRAPHIC CHARACTERISTICS

In 1903, the year of the first modern census in the Philippines, the National Capital Region (NCR) of the Philippines, or Metro Manila (as the region was officially designated in 1975) had a population of about 329,000, more than two thirds of whom resided in Manila. The population of the capital region grew by 2.2 per cent per annum during 1903-1918 and by 1 million in 1939. During the Second World War the capital region experienced rapid population growth, nearly 5 per cent per annum. Population growth declined during the post-war period (1948-1960), however, and significant population shifts began to take place within the region. The growth of Manila dropped sharply, for example, from 4.8 per cent per annum during 1939-1948 to 1.2 per cent during 1948-1960, whereas Quezon City and Pasay City each grew by about 9 per cent per annum and Caloocan by about 8 per cent.

The capital region as a whole experienced more rapid population growth again during 1960-1970, reaching close to 4 million in 1970. Between 1970-1975 and 1975-1980, the average annual rate of growth of Metro Manila declined by 1 percentage point, from 4.6 to 3.6 per cent per annum, approaching the national urban average of 3.5 per cent. However, there was an absolute increase of nearly 1 million during each five-year period, with the population of Metro Manila reaching close to 5 million in 1975 and close to 6 million in 1980. According to Government estimates, the population of Metro Manila grew by about 3.4 per cent per annum between 1980 and 1985, reaching approximately 6.9 million. Adding the population of the 25 municipalities in the Metro Manila adjacent areas, the total population of the metropolitan area and adjacent urban areas was estimated to be about 8.6 million in 1985.

Both mortality and fertility levels in Metro Manila are well below the national average. As of 1980, its crude death rate was 5.7 per 1,000, compared to 8.7 per 1,000 at the national level.

Although Metro Manila has the highest mean age at marriage, 20.2 years, of any region in the Philippines and great acceptance and practice of family planning, fertility in Metro Manila remains high. Its crude birth rate was 28.9 per 1,000 in 1980, compared to 33.6 per 1,000 for the nation as a whole. According to various surveys conducted over the past three decades, the mean number of children ever born in Metro Manila to ever-married women near the end of child-bearing has remained fairly stable, at 6.1 in 1956-1958, 5.9 in 1968 and 5.7 in 1973 (in the two National Demographic Surveys conducted in those years) and 6.0 in 1981 (according to the Philippines Fertility Survey conducted in conjunction with the World Fertility Survey).

ECONOMY

The industrial base of Metro Manila has broadened in recent decades to include textile production, publishing and printing, food processing, and the manufacture of tobacco, paints, drugs, oils, soap and lumber. Metro Manila is also a major international port, handling more than half of domestic and foreign cargo volumes, and is the main centre for air traffic and the international tourist trade. It is also the site of a highly centralized national Government and of the head offices of major domestic and foreign corporations, international banks and so forth. It has the main institutions of higher learning and research in the Philippines, as well as major medical centres and cultural institutions.

Whereas the Philippines experienced rapid economic growth during the 1970s, in recent years the economy has been less and less able to generate growth. In fact, gross national product (GNP) declined in 1984 for the first time since 1945. The economic situation is not expected to improve in the near future. In the economic agreement signed by the Philippine Government, the International Monetary Fund and various creditor banks in late 1984, real GNP was projected to increase by only 16 per cent between 1984 and 1990, whereas the the total population of the country was forecast to increase by 13 per cent.

INFRASTRUCTURE AND SOCIAL SERVICES

Land use in Metro Manila has been largely shaped by the activities of the private sector. Although Metro Manila has not been as seriously affected by land speculation as some of the world's mega-cities, land prices in Metro Manila have risen dramatically in recent years (by about 100-200 per cent in central areas of the city). The increase in the price of land has in turn been one of the major reasons for the sharp increase in the cost of housing, since nearly one quarter of the average cost of new housing in Metro Manila is attributable to land and site preparation. Moreover, because some large parcels of land are inaccessible and others have no access to basic infrastructure or services, private developers and the public sector must now look to the fringe areas to find land at reasonable cost.

Metro Manila has reasonably severe problems in regard to water supply. About 50 per cent of the metropolitan area, which have 65-70 per cent of the population of Metro Manila, are served by piped surface water from bulk supply sources. The existing central distribution system in Metro Manila, with the exception of the new works constructed, is in poor condition. Moreover, studies conducted by the Metropolitan Waterworks and Sewerage System (MWSS) have found that revenue is collected on only 47 per cent of the water supplied to the system. Efforts are under way to reduce system losses, to prevent the widespread illegal tapping into the system and to improve revenue collection, in an effort to reach an additional 1.3 million consumers within the distribution area.

Thirty-five per cent of the population of Metro Manila that live outside the distribution system either purchase water from private vendors, usually at higher relative costs, or are served by groundwater. However, as groundwater supplies have become depleted, wells have been dug deeper, entailing higher pumping costs. More seriously, over-abstraction has lowered the water table by up to 200 metres below sea level in many areas of Metro Manila, resulting in growing pollution of the water supply from saline intrusion.

Metro Manila has an extremely inadequate sewerage system. The primary sewage network serving Manila was built during 1904-1911 to serve a population of only 500,000. In total, about 11 per cent of the population of Metro Manila are served by piped sewerage. In the large number of unsewered areas, sewage effluent is conveyed through road gutters, open ditches and canals to water courses that overflow during the rainy season, and then either is pumped untreated into Manila Bay or is allowed to flow into the Bay through the tides.

Air pollution is another major environmental problem. Gaseous and particulate emission from the approximately half a million motor vehicles in the city account for about 60 per cent of total air pollution, oil-fired power plants account for about 30 per cent and industrial plants account for the remaining 10 per cent.

Metro Manila has serious drainage and flooding problems. About 4,400 hectares are subject to regular annual flooding, affecting some 190,000 households and causing serious economic losses. In most areas of the city the worst flooding occurs when the Pasig River overflows simultaneously with local heavy rainfall. Part of the problem arises from the fact that Metro Manila still relies on natural drainage channels, many of which have become blocked by siltation, weeds and refuse, and by the construction of makeshift houses in the channels in squatter areas.

There are approximately 2,650 tons of solid waste generated daily in Metro Manila, 70 per cent of which is collected. The remainder is dumped on roads and in watercourses, frustrating drainage and flood-control projects and worsening flooding. Refuse that is collected is taken to nine landfill sites that have small reserve capacities.

Metro Manila has serious traffic problems. Travel along almost one quarter of the primary road network is now less than 15 kilometres per hour, while speeds in the central business districts during peak hours are down to 10 kilometres or less, or about twice the speed of walking.

A large proportion of the population of Metro Manila uses public transport and paratransit, mainly public or private buses and jeepneys (converted jeeps). Although fares on the public buses have been kept artificially low (indeed, bus fares were raised only twice in Manila between 1960 and 1975), transport costs account for a significant proportion of household expenditure. Evidence suggests, for example, that the impact of public transportation costs on low-income families is so severe that families below the thirtieth percentile in household income mainly walk.

POPULATION POLICY

Until fairly recently, spatial planning in Manila was synonymous with the planning of government complexes, parks and boulevards, the development of high-income areas (e.g., Makati), and the provision of highway infrastructure.

A major problem over the years is that planning goals and objectives in Metro Manila have been mainly statements of intent. Moreover, strategies have not been clearly outlined. Although a Regional Development Framework Plan was drafted in 1982 and revised in 1985, there is still no agreed-upon, enforceable metropolitan development strategy or plan for Metro Manila. Without such a strategy, the authorities have not been able to direct growth into preferred areas, because they have lacked the necessary controls over public and private investmenst and over land availability.

With respect to policies and measures, compared with other Asian countries, there has been little use of explicit policy measures in Metro Manila to promote decentralization goals. In 1991 the Local Code of the Philippines proscribed a process of devolution, which means the transfer of power and authority from the national government to local government units. The underlying assumption of this policy is that development can trickle up from below if micro-growth targets are set that respond to the immediate needs of the broadest segment of the population of Metro Manila. This strategy will be successful especially if the Government encourages community self-reliance and the active participation of citizens, as has been the case in the environmental improvement efforts of Manila, which have stressed cleaning, beautifying and "greening" the city. Garbage collection and disposal have been improved; other projects include upgrading streets, parks, playgrounds, drainage and sewerage systems and planting trees. The focus has been on motivating leaders of the smallest political unit, the *barangay;* they are encouraged to organize environmental improvement projects that serve as models for emulation by other *barangays*.

During the early 1970s legislation was passed which banned new industry from within 50 kilometres of Metro Manila; however, that legislation was rescinded in 1979. Although limited tax incentives were employed to attract industry to preferred areas, it was mainly market forces (e.g., the availability of cheaper land on the periphery and the provision of highway infrastructure) which induced the gradual decentralization of industry. As for measures designed to affect the mobility of individuals and households, the Government briefly adopted educational controls during the early 1970s, but they were largely ineffective. To some extent, the large-scale relocation of squatters in the areas adjacent to Metro Manila has been a type of migration control, because the squatters were moved too far out to commute back to the central city. How ever, the adjacent areas are already being engulfed by the spreading metropolitan area; hence, the resettlement programmes have not really served as an important instrument to promote intraregional decentralization.

With respect to planning institutions, Metro Manila still lacks an effective metropolitan form of government to direct planning and development. Although responsibility for strategic planning has been vested in the Metro Manila Commission (MMC), MMC has neither been able to control effectively the urbanization process nor to coordinate the activities of the national, metropolitan and local agencies involved in the development of the city. Basically, what has evolved in Metro Manila is a development pattern partly reflecting the physiographic characteristics of the area, largely the result of market forces, and only partly reflective of governmental policy

MEXICO CITY
(Mexico)

Mexico
City

Built on an island in Lake Texcoco in the early fourteenth century, the Aztec city of Tenochtitlán was the largest city in the Americas. Rebuilt after the Spanish conquest, Mexico City served as the political, administrative and financial centre of a major part of the colonial empire of Spain.

During the third quarter of the nineteenth century, Mexico City underwent a rapid process of modernization, spurred by a massive influx of foreign capital. The industrial development of the city was facilitated by the fact that it had the best infrastructure of the country, the largest consumer market, a concentration of the few existing industries, and a relatively well-trained labour force.

The industrial development of Mexico was disrupted during the revolutionary period (1911-1920), but by the late 1930s it began a period of sustained growth. After 1940 the Government's policies for the agricultural sector, which strongly favoured large-scale irrigation agriculture, accelerated the breakup of small-holding agriculture throughout rural Mexico, releasing scores of thousands of agricultural labourers who migrated to Mexico City.

DEMOGRAPHIC CHARACTERISTICS

With a population of some 60,000 on the eve of the Spanish conquest, México-Tenochtitlán experienced a devastating smallpox epidemic in 1520 and began its existence as a colonial city with only about 30,000 population, including Spanish settlers. Mexico City grew very slowly, reaching 50,000 population in 1689 and 105,000 in 1790, doubling its population in a little more than a hundred years. By 1900, nearly four centuries after the Spanish conquest, the city had a population of 344,000.

The spectacular growth of Mexico City during the twentieth century took place in a context of rapid national population growth, in which the doubling time of the population of Mexico was reduced from 50 to about 20 years. Migration was more important than natural increase, however, in fuelling Mexico the population growth of Mexico City. It is estimated that between 1940 and 1970, some 6.2 million persons moved out of the rural areas of Mexico, with about half of them migrating to Mexico City. From a population of 1.6 million in 1940, it increased to 3.1 million in 1950, 5.4 million in 1960, 9.1 million in 1970, 13.9 million in 1980, and to about 15.6 million in 1995. The city is projected to reach 18.2 million by the year 2010.

Although Mexico City has had steadily larger annual increments to its population, the rate of population growth has been declining. The city grew by over 5 per cent per annum for more than half a century (by 5.6 per cent per annum between 1940 and 1950, 5.3 per cent between 1950 and 1970, 4.3 per cent between 1970 and 1980, and by about 0.8 per cent between 1980 and 1995). It is estimated that about 80 per cent of the decline in the population growth of Mexico City is attributable to a decline in natural increase and 20 per cent to a decline in net migration.

ECONOMY

Between 1940 and 1970, the economy of Mexico grew by more than 6 per cent per annum, largely based on expansion of the private sector. This Mexican "miracle" was the outcome of an exchange rate policy and a national economic development strategy that greatly favoured investment conditions in manufacturing—a sector that grew by more than 8 per cent per annum. The impact of national economic growth was felt disproportionately in Mexico City. Public policy acted to further concentrate industrial production in Mexico City throughout this period. The city was especially favoured in its access to electricity generation, oil and other power sources, the provision of water and drainage facilities, and was the focus of major road investment programmes.

The most important industrial activities undertaken in the city include the manufacture of clothing, furniture and repairs, publishing activities, production of rubber, plastic and metal goods, as well as the assembly and repair of electrical goods. The city also is the site of a large number of transformation industries oriented towards the local market-consumer durables such as food, beverages, shoes, petrol and gas refining. Most of this production is for a national and local market rather than oriented towards global markets. Although the federal district still has the largest industrial plant in the country, new industrial enterprises are gradually suburbanizing, through the deconcentration of new establishments and formal sector jobs away from the central city to the outer fringes.

INFRASTRUCTURE AND SOCIAL SERVICES

Land in Mexico City is being urbanized at a rapid rate. The Mexico City Metropolitan Zone absorbed four municipalities in the state of Mexico during 1970-1980 and was expected to absorb 15 more by 1990, and at least 20 more by the year 2000. In the process, an average of 1,000 hectares of forest land and 700 hectares of agricultural land have been urbanized each year, leading to further deterioration of the ecosystem.

Currently, real estate market in Mexico City is controlled by the private sector, which is the principal agent for land sales, development and finance. In an effort to counter the present pattern of distorted occupation of urban land, the Government has attempted to establish public reserves of land for future development. Resource constraints have restricted public land acquisition, however, to those areas needed for immediate action programmes, such as housing schemes, regularization of subdivisions and rights of way. Moreover, most of the land already in the possession of public agencies has been either acquired at prices that make its utilization in low-cost shelter programmes uneconomical or else is unsuitable for development because of its remoteness, difficult topography or high infrastructure costs. Housing conditions in Mexico City have improved over the past several decades. The proportion of houses with piped inside water increased from 35 to 67 per cent, whereas those with indoor plumbing increased from 33 to 81 per cent. Generally, housing conditions are somewhat poorer in peripheral areas of Mexico City metropolitan zone.

Although housing standards in Mexico City are currently quite high by international standards, the situation begins to deteriorate markedly at the edge of the urbanized area, where there are vast areas of substandard housing, with unpaved roads, illegal electricity hook-ups, and a lack of water supply, sewerage and waste collection. With international financial assistance and assistance from lending institutions within Mexico, the housing sector in Mexico City made an impressive recovery after the 1985 earthquake.

Situated at more than 2,000 metres above sea level in a closed mountain valley, with relatively scarce precipitation, Mexico City has had to ensure an adequate supply of water by pumping an ever larger volume, at escalating costs, from remote supply sources at lower altitudes. Whereas supplies have increased, the city lacks an efficient distribution system. Systems losses are estimated at over 30 per cent. One report noted that leakages and unaccounted for water may explain the relatively generous provision of more than 300 litres per capita per day, which approaches United States design standards. Compared to other large cities, this is already high and might increase with the gradual expansion of the distribution system, which does not reach large segments of the population. Currently, of the 10 million population of the federal district, 82 per cent have piped inside water; the remainder obtain water from public hydrants or from unknown sources. The situation is worse in the municipalities in the state of Mexico, where nearly 40 per cent of households do not have piped inside water. An additional problem is the fact that the pipes carrying the drinking water of the capital are deteriorating, exposing Mexico City residents to increasing health hazards.

The population growth of Mexico City long ago made it difficult to process sewage, and the 1985 earthquake made the situation even worse by damaging some sections of the system. Although about 80 per cent of the population have piped inside plumbing, an estimated 3 million residents in peripheral areas are not hooked up to the sewerage network. In those areas raw sewage is discharged into river beds or seeps into the ground, polluting the underground aquifers.

Although the city has nine sewage treatment plants, they have been working at only 37 per cent of installed capacity, mainly because of insufficient storage facilities. Since relatively little domestic and industrial waste-water treatment is practised, the majority of flows pass to the north for use as irrigation water.

Surface runoff and extensive flooding have created serious drainage problems in many areas of Mexico City. The city lacks natural outlets for surface waters arising within the valley. Moreover, excess extraction of groundwater has caused dramatic subsidence of the valley floor (as much as 8-10 metres in central areas) and created countergradients which require sizeable energy consumption for pumping during the rainy season.

While the capital of Mexico is generally a clean city relative to most developing country mega-cities, inefficiencies in the system lead to wastes accumulating in back streets or at clandestine tips. Indeed, it is estimated that at least one quarter of the more than 10,000 tons of solid waste generated daily is dumped illegally or remains in the streets. Although the Government closed some 12,000 illegal dumping sites, its efforts have met with considerable resistance from some 20,000 persons (including dependants) within the metropolitan area that support themselves by scavenging.

Pollution is undoubtedly the most serious problem in Mexico City. The geographical situation of the basin, its meteorological characteristics and the emission of air pollutants combine to make it a great natural reservoir in which complex photochemical reactions produce oxidant chemical compounds. Because air pollution of an intensity and duration comparable to Mexico City has never been recorded anywhere else, doctors report that it is difficult to gauge the likely permanent effects of the various forms of pollution on human health. Recently, an increasingly intensive effort has been under way to develop a comprehensive package of motor vehicle controls, including more stringent new car standards, inspection and retrofit of some older vehicles. To date, no country in the world has attempted, much less successfully carried out, the type of used vehicle retrofit programme contemplated in Mexico City. As experts have emphasized, the programme should at least be attempted because of the large proportion of older vehicles in the fleet, which will dominate the inventory throughout the remainder of the twentieth century and into the next.

Traffic problems currently rank among the most serious problems of Mexico City. Traffic congestion results in a significant loss of productivity. According to an origin-destination survey conducted in 1983, the average trip time for the 19.5 million daily person-trips of the city was 52 minutes, thereby consuming a total of some 17 million man-hours. Congestion—caused mainly by private cars, which grew by 1,700 per cent between 1960 and 1980—slows down the movement on the roads to 16 kilometres per hour at peak times. The 2.6 million private automobiles in the city accounted for 24 per cent of total daily passenger trips as of 1985, but were estimated to be responsible for 50 per cent of traffic congestion and to produce about 80 per cent of air pollution. Private car usage as a proportion of total daily journeys increased from about one fifth to one quarter between 1975 and 1985. Whereas the Government aims to reduce the proportion to 18 per cent by the turn of the century, this is unlikely to occur without the withdrawal of a number of implicit subsidies, e.g., capital investment in road construction and improvements, relatively low fuel costs, low repair and service costs.

The Government's major policy for the transport sector has been the construction of the Mexico City metro, which was initiated in 1969 with 11.5 kilometres of track and currently has some 120 kilometres. With a fleet of more than 2,000 cars as of 1985, the metro accounted for 18.5 per cent of the total daily person-trips in the city. With the metro as the hub of the transportation system of the city, the Government has essentially restructured the entire transport system of the city over the past decade. As a first step, concessions for the privately operated bus fleet in the city were revoked in 1981, and the Route-100 Urban Passenger Transport Company was established. During the early 1980s, the number of bus routes was reduced from over 500 to 76 direct routes on a grid pattern with 47 feeder routes. The fleet of 6,600 Route—100 buses is currently the major transportation

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mode in the city, carrying some 5.3 million passengers daily—or 27 per cent of total daily person-trips as of 1985.

In recent years, there has been spectacular growth in Mexico City in the number of collective taxis, both 10-seaters and 20-seaters, some licensed and many others merely tolerated. As of 1985 Mexico City had some 40,500 collective taxis, accounting for 10.8 per cent of total person-trips. The rapid emergence of this private transport mode within the overall context of increasing governmental control over transport by the public sector is one of the more paradoxical features of the current transport situation in Mexico City. Essentially, the system of collective taxis has grown in response to transport demand on the periphery. The origin-destination survey conducted in 1984 found that 28.5 per cent of all person-trips in the metropolitan area originated in the state of Mexico and that 60 per cent of those trips were destined for the federal district. Moreover, many of the inter-municipal moves to other destinations in the state of Mexico passed through the federal district. Clearly, the artificiality of the boundary between the federal district and the state of Mexico is perhaps nowhere more evident than in the transport sector. The metro is located in the federal district, with only one line crossing for a short distance into the state of Mexico; Route-100 buses also operate almost entirely within the federal district. The privately operated suburban buses and collective taxis that serve the state of Mexico are not only insufficient in coverage and capacity, but also charge fares that are on average 3.5 times higher than in the federal district.

PLANNING ISSUES

In regard to planning, Mexico is a country with a long history of spatial planning. A major problem has been the fact that each administration prepared its own plans, often with a lack of continuity. Most plans have tended to be mere pronouncements, with little diagnosis and insufficient discussion of how the plans would be implemented. Moreover, successive plans have shown excessive reliance on purely coordinative mechanisms (e.g., creating innumerable committees) and normative measures (e.g., industrial development restrictions, zoning subdivisions and building regulations).

Spatial policy instruments generally have been weak. A major problem has been the fact that the combined pressures of transportation congestion, environmental decay, land speculation, inadequate public services and unemployment have unleashed strong demographic, political and market forces that operate in both directions, towards the centre and away from it. Their interplay has been traditionally distorted by an unusual degree of Government intervention through direct investments, subsidies, regulations and pricing measures which were not always applied consistently.

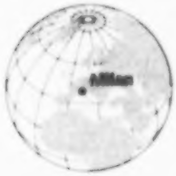
In addition, long-standing high levels of subsidies have served as implicit spatial policies, counteracting the goals of the Government's explicit spatial policies. For example, water prices were held down so that consumers paid less than the incremental cost of providing water; the prices of corn, electric power, diesel fuel and public tranport were also subsidized from around 1940 to the 1970s. Although some of these subsidies were to benefit the urban poor, substantial parts of the subsidies benefitted other groups and served to reduce the cost of locating economic activity in the Mexico City Metropolitan Zone.

A major obstacle with regard to decentralization is the fact that Mexico City is much more than the seat of economic and political power in Mexico. Households that are drawn to or desire to remain in Mexico City are strongly influenced by numerous social, political, educational and cultural factors, and they often equate living in Mexico City with the image of personal success. It seems unlikely, therefore, that the national predominance of Mexico City will change very much during the remainder of the twentieth century.

Governing Mexico City is an extremely complex task, particularly in light of the constraints posed by its jurisdictional fragmentation, and by division of authority among the national ministries, the Department of the Federal District, the state governments, municipalities and the numerous implementing agencies and institutions. Two serious problems remain. First, there is no single metropolitan region authority with responsibility for implementing a comprehensive and integrated strategy of metropolitan development. Events are occurring outside the federal district which affect both the district and the metropolitan area at large, yet the federal district is currently powerless to respond. Secondly, there are few large cities in the world in which residents have so little say over who governs them, and over local urban policies and expenditure.

Finally, one of the most serious problems in planning for the Mexico City Metropolitan Zone is the fact that within a few years, more than half of the population will be located in the state of Mexico. Most of the focus of government and academic analysts has been towards the past and current weighing of population in the city; they have failed to look adequately at the area where the battle over future city growth will be won or lost—in the state of Mexico. Whereas the federal district continues to receive the highest level of subsidies and is equipped with superior infrastructure, the residents of the outlying areas pay higher prices for inferior services. Moreover, as the two entities have different governmental structures and urban development policies, there is little hope of resolving these complex jurisdictional issues in the near future.

MILAN
(Italy)



Milan is the commercial, financial and industrial capital of Italy. It is located in the northern part of the country, in the centre of the economic region of Pianura Padana, a main agricultural and industrial area. Milan was originally an ancient Gallic city which was captured by the Romans in 222 B.C.. It evolved as a city during the Middle Ages, was destroyed in 1162 and subsequently rebuilt. Milan became the capital of the Duchy of Milan in the fourteenth century and remained so until its integration into the Italian kingdom in 1860. The city was the centre of the industrial revolution of the region in the nineteenth century, and it grew to become the main economic hub of the country.

DEMOGRAPHIC CHARACTERISTICS

Since 1930, and especially after the Second World War, Milan has experienced sustained economic and demographic growth. The urban agglomeration of Milan grew at an average annual rate of 2 per cent between 1950 and 1970. Population growth was due mainly to migration from southern Italy and, later, from Mediterranean and Northern African countries. The urban agglomeration of Milan had a population of 3.6 million in 1950 and 5.5 million in 1970.

Population growth slowed down considerably to zero during 1970-1975, and the subsequent years up to 1995 were ones of population loss: the negative growth rate reached -1.6 per cent per annum during the period 1985-1995. Population in the urban agglomeration stabilized at about 4.3 million in 1995 and projections to the year 2010 show no anticipated population increase.

In the Municipality of Milan, the resident population in 1981 was 1.63 million, declining to 1.37 million in 1991. Depopulation has especially affected the central city, which lost population between 1977 and 1981 at an annual rate of 1.6 per cent. The population of the city has been ageing and exhibits an excess of deaths over births in the municipality. The greatest decrease in population in the Municipality of Milan occurred in 1971-1981, while areas surrounding the Municipality were still experiencing population growth. However, declining population also affected the Province of Milan, with its population decreasing from 4.04 million in 1981 to 3.9 million in 1991.

The share of Milan in the urban population of Italy and of its total population is declining. In 1975, about 15 per cent of the urban population of the country and 10 per cent of its total population lived in the urban agglomeration of Milan. By 1990, 13 per cent of the urban population and 9 per cent of the total population were residents of Milan. This share is expected to continue to decline slowly.

ECONOMY

After the end of the Second World War, Milan became the leading economic centre of Italy. The economy of the city was based primarily on manufacturing, but to date Milan has a diverse and highly advanced economic base. Milan is the production and distribution centre for the main industries of northern Italy, which include machinery and mechanical engineering, automobile and motor vehicle parts, aerospace industries, electrical appliances, railroad materials, metalworking, textiles, timber products and chemicals. It also serves as the site for regional food processing and publishing enterprises. It is the headquarters of leading Italian electronic firms, as well as a centre of high-technology and advanced equipment research and production. As the principal financial centre in Italy, its stock exchange and banking and financial institutions influence Western European and global markets. Manufacturing is still important for the economy of the city; 22 per cent of the regional labour force were employed in manufacturing in 1981.

The development of industry was made possible by the large numbers of migrants from southern Italy, who were willing to work for low wages. The economic prosperity of Milan resulted in low unemployment rates in contrast to the situation in other Italian cities. In recent times, the Municipality of Milan and some contiguous areas have lost some industrial employment to other areas of Italy. The tertiary sector is growing rapidly and employment in services has increased; however, these new jobs have not compensated for the decrease in industrial employment. Milan has suffered less than other Italian cities from the structural shift in sources of employment because its economy was diversified before industrial jobs began to disappear.

INFRASTRUCTURE AND SOCIAL SERVICES

The population pressure created by migration flows in the 1970s impelled the Municipality to improve basic services, especially in poorer areas, and to expand existing housing and social services. Government subsidies supported public housing projects. Slums were upgraded and housing was constructed on the north-eastern and southern fringes of the city; nevertheless, slum areas persist.

Housing is one of the main problems of the city. The increase in housing prices and the shortage of rental dwellings, together with problems of congestion and air pollution, have led residents to move to outer districts and municipalities. Milan faces a serious lack of space for all types of land uses, and this affects residential patterns as well.

The necessity of commuting creates severe traffic congestion and requires a constant upgrading of transportation facilities. These projects often have difficulties in meeting their targets. Air and noise pollution caused by motor vehicles has reached dangerous levels and at times has obliged the officials of the city to take emergency measures. On a number of occasions, traffic restrictions have been imposed, and people have been asked not to leave their dwellings because of serious health risks.

PLANNING ISSUES

A profound redirection of city planning policies occurred during the period 1976-1986. The *Variante* (revision) of the Milan Master Plan of 1976 has been ineffective for a number of reasons. The national economy has been in deep crisis. Moreover, the economic base of the city has undergone a radical transformation: many industrial activities have moved to peripheral areas; and the structure of the metropolitan economy has shifted towards tertiary functions. This shift has completely changed urban conditions. The *Variante* was aimed only at rationalizing the spatial structure that had resulted from the chaotic growth of the 1960s; it failed to take into account the further evolution of the city.

Several implementation plans attempted to respond to the changed circumstances that were not foreseen by the *Variante*. In the period 1980-1985, efforts were undertaken to promote special projects and to adopt more flexible procedures. A number of area-specific projects were elaborated for the Milan Metropolitan Area, including the Portello-Fiera project for the future expansion of the Milan International Exhibition; the Garibaldi-Republica project aimed at the development of a new business district near the Milan Railroad Station; and the North-West and the South-East projects, involving the use of abandoned industrial areas.

MONTEVIDEO
(Uruguay)

Montevideo

Montevideo was established by the Spanish during the early eighteenth century as a stronghold against the Portuguese advance into the Rio de la Plata region from Brazil. Once Spanish control over the area was secured, Montevideo declined as a fortress and gained importance as a port. With the Royal Decree of Free Commerce of 1778, the city began a dynamic process of economic and demographic development. It became the capital of independent Uruguay in 1830. In the early 1900s, the port and the central area of the city underwent major restructuring to accommodate the growing economic activity. The city is currently the commercial, industrial, political and cultural centre of Uruguay and shelters about half of the population of the country.

DEMOGRAPHIC CHARACTERISTICS

Although natural increase and rural-urban migration have combined to produce high population growth in Montevideo, the population of the city appears to have grown very slowly during the second half of the twentieth century. The city had 1.14 million inhabitants in 1950, 1.16 million in 1963, 1.18 million in 1975 and 1.25 million in 1985, with the average annual rate of population growth remaining at about 0.1 per cent during the period 1950-1985. According to the United Nations *1994 Revision*, Montevideo had a population of 1.3 million in 1995. The demographic stagnation of Montevideo is the result of relatively low fertility combined with emigration. Indeed, the city has experienced increasing emigration fueled by the deteriorating national economic situation since the 1970s. Emigration has largely offset the large-scale in-migration to the capital, which continues to be stimulated by the job opportunities offered by the city.

The population of Montevideo has gone through a process of spatial redistribution, with the central sections of the city experiencing a population decline and neighbouring areas undergoing a population increase. A satellite ring around the city also has developed. Due to the high cost of transportation, however, this ring has been growing fairly slowly. In 1985, the central city and the metropolitan area had densities of 6,952 and 174 per square kilometre, respectively.

ECONOMY

Since well before independence, commerce and the parallel development of transatlantic navigation transformed the port of Montevideo into a dynamic centre which spread economic development throughout the country. This still applies to date; the port of Montevideo handles most of the foreign trade of Uruguay and the city houses most of the its manufacturing and transformation industries, banks and financial establishments, as well as servies. Cattle-raising was initially the major source of economic activity. After the 1930s, however, import-substitution industry began to grow. Manufacturing underwent a period of stagnation during the 1950s while financial activities were dominant until the 1960s. In 1974, the Government decided to implement an open-door economic policy. Coupled with a favourable international economic environment, it accelerated the process of tertiarization and boosted economic activity in several fields such as manufacturing, construction, foreign trade and finance. To counter the economic crisis of the 1980s, Uruguay has been promoting the manufacture and export of non-traditional products with some success. Beside financial and administrative activities, the main industries include processing of livestock products such as meat, hides and wool, textiles, leather and clothing. The city also houses the state enterprises, oil refineries, cement-works and electrical power system in Uruguay.

In 1979, over 92 per cent of the 698,100 economically active persons in the metropolitan area were employed. Services accounted for the majority of this employment (32 per cent), followed by public administration (22.9 per cent) and industry and mining (22.6 per cent). The economic difficulties of the 1980s reduced employment opportunities and real wages, resulting in worsening socio-economic living conditions, increased underemployment and unemployment, and expanded informal-sector activities. However, unemployment levels remained relatively low due to the "export" of unemployment. Indeed, international emigration has been a primary mechanism to relieve unemployment in Montevideo.

INFRASTRUCTURE AND SOCIAL SERVICES

Although Montevideo is atypical of most Latin American capital cities because it has been subject to relatively low population pressures, the problem of urban poverty has been aggravated by the deterioration of economic conditions during the 1980s and by significant rural-urban migration. Whereas shanty towns have not been rapidly expanding, makeshift housing solutions have multiplied in recent years. The urban poor in Montevideo have three typical housing alternatives: the *cantegriles*, precarious shelters irregularly built on vacant land, the "emergency housing compounds" built by the Government with a minimum of services, and the *conventillos or inquilinados*, which are old mansions in the central areas of the city rented by the room. The emergency housing compounds were a response to the goal of eradicating the *cantegriles*; instead, they rapidly degenerated into shanty towns since the number of occupants rapidly exceeded the intended limit through overcrowding and the addition of poorly built structures to the existing buildings. The *conventillos* also suffer from overcrowding and have proliferated in recent years. It was estimated that, in 1985, some 50,000 persons were living in irregular settlements, with about 3,000 households in *cantegriles*, and about 6,000 households in emergency housing compounds. Another 70,000 persons were living in *conventillos* and *inquilinados*.

There has been a significant exodus of upper and middle class families from the city centre to residential locations on the shore of the Rio de la Plata to the east of the city, as well as out-migration of lower income groups to areas in the north and north-west. Many of the old mansions abandoned by middle class families were turned into *conventillos*, resulting in serious degradation of some of the central areas of Montevideo. The authorities are greatly concerned by the decay of some areas of "old Montevideo" and several projects for its upgrading have been proposed.

Several localities have grown up along the major bus routes into Montevideo. Although these areas have experienced some industrial development, a considerable proportion of their residents (sometimes nearly half) travel daily to their places of work in Montevideo. In the coastal areas, where there are virtually no places of employment, this dependency is more acute. In such areas, the percentage of the active population commuting daily to the city is nearly 80 per cent. Buses are the major means of transportation; the contribution of railways to public transportation is not very significant.

PLANNING ISSUES

The first efforts to regulate the growth of Montevideo appeared as early as 1901 with a plan for the transformation of the port and the surrounding area. In 1939, the Government created the Regulating Plan Office, and in 1955 it proposed the Master Plan for Montevideo. This plan was to be in force for 20 years and renewable for 20. It divided the city into four zones--urban, suburban, rural and industrial, established a roadway plan, regulated land use and included a project for the restructuring of the "old Montevideo" area.

The Master Plan of Montevideo was due for revision in 1976, but it was only slightly modified. A new Master Plan for Montevideo was approved in 1983 and is still in force. It supports the "autoregulation" of the development ot the city through the promotion of industrial development in specific zones and the upgrading of degraded urban areas, in particular in the city centre.

MONTREAL
(Canada)

With its 3.1 million inhabitants and the intensity and diversity of its economic activities, Montréal is the second largest urban area in Canada. Former nineteenth century capital of the federation of provinces, the city of Montréal, with a population of 1.02 million in 1991, is located on an island some 48 kilometres long and 11 kilometres wide on the St. Lawrence River. The economic metropolis of the province of Quebec, Montréal is the second largest French-speaking city in the world. Sixty-six per cent of its residents declared using French as their everyday language in 1991 (the figure rises to 71 per cent for the metropolitan census area and to 83 per cent for the province).

Montréal was founded in 1642 as a French colony and fur-trading outpost. The city evolved as a complex social and political body by the time the French Crown ceded most of the territory of the colony to England in 1759 after the Seven-Year War. The size of the city is currently about one third of Montréal Island, which includes 29 municipalities of various sizes. They are all members of the Montréal Urban Community, a municipal super-structure created in 1970 to share and to rationalize costs for some municipal services (police, public transit etc.). Over the years, the urbanized area was pushed well beyond the borders of the city as suburbs developed at a rapid rate beginning in the 1950s. The metropolitan census area to date includes 104 different municipalities.

DEMOGRAPHIC CHARACTERISTICS

In 1871, Montréal had a population of about 133,000, which increased tenfold in the succeeding century. The population of the Montréal urban area grew from 1.39 million in 1951 to 3.12 million in 1991. The average annual rate of population growth declined from a high of 4.2 per cent during the period 1951-1961, to 2.7 per cent between 1961 and 1971 and 0.4 between 1971 and 1986, increasing to an average of 1.1 per cent annually during the period 1986-1991. In 1991, the area of the central city was 158 square kilometres, with a density of 5,742 per square kilometre, while the metropolitan area had 490 square kilometres and a density of 3,543 inhabitants per square kilometre.

The declining rate of population growth since the mid-1960s was due to a number of factors, among them, the end of the post-war baby boom and the end of the rural exodus that made the province of Quebec a modern industrialized and urbanized society. Another factor must be noted for its exceptional nature and specific timing. Between 1976 and 1986, the population of the metropolitan area grew by 119,000, despite an out-migration of approximately 100,000 mostly English-speaking population.

When compared to the rest of Canada, the province of Quebec has a slightly lower fertility rate. This rate is rather low for the region of Montréal, but has had a tendency to rise in recent years. During the period 1976-1981, the total fertility rate was 1.5 children per woman, declining to 1.37 during 1981-1986 and increasing to 1.54 during 1986-1991. For 1991 alone, the total fertility rate reached 1.7. A large part of this increase can be explained by higher levels of immigration in the past 5-7 year period and their higher fertility rate than the rest of the population. It is interesting to note that fertility is somewhat lower within the central city (1.59 in 1991), a pattern that can be observed in most major metropolitan areas in Europe and Northern America.

Montréal, a typically cosmopolitan city, has a relatively high rate of immigration. As of 1991, about 17 per cent of the population of the city had been born outside of Canada. About 48 per cent of the migrants had been born in Europe, while 24 per cent came from Asia and 17 per cent from Latin America and the Caribbean. In 1991, Montréal received about 19.5 per cent of all immigrants to Canada; 87 per cent of all immigrants settling in the province of Quebec, representing more than 80 different countries, chose Montréal as their final destination .

The age pyramid for Montreal is characterized by low percentages in the age group 0-19 (20 per cent). In 1991, 29 per cent of the population were between 20 and 34 years of age and 30 per cent were over 35 years of age (of these, 15 per cent were 65 years of age or over). Young adults and the elderly constitute a large proportion of the population of the city.

ECONOMY

Largely dominated by service industries, which employ more than 75 per cent of the labour force (84 per cent in the central city), the economy of Montreal is highly diversified. It is the headquarters of a number of the largest corporations in Canada and the place of business of many subsidiaries of foreign multinationals. It is also the second most important research and development centre in Canada, with its four universities and a concentration of high-tech industries such as aerospace, telecommunications, electronics, software and pharmaceuticals.

Historically, the location on the St. Lawrence River, at the breaking point of the navigable seaway, gave the city a great advantage for trade and commerce. From the 1850s to the 1950s, Montréal underwent industrial development and strengthened its position as the centre of the Canadian economy. With its vigorous financial sector, its strong transport and machinery industries and the development of a consumer-goods industry (mainly food and apparel), Montréal is one of the most important cities in the Northern American economy.

However, since the Second World War, the economy of Montreal has been transformed along with the emergence of a new world economy. The Northern American continental economy consolidated and new industries and new production methods (in metals and automobiles) developed in the Great Lakes area, a region that became for some three decades the industrial heart of Northern America. As a result, capital and labour moved inward to Detroit and Toronto. Henceforth, Toronto became the new centre of the Canadian economy, benefitting from the development of new transport infrastructure, such as the St. Lawrence Seaway (that enabled ships to deeply penetrate the heart of Northern America), railways and air and road transport. Many corporate headquarters moved out of Montréal in successive waves, establishing themselves in Toronto. Financial services and other service industries followed this pattern. To date, Montréal remains an important industrial and financial marketplace. As in many large Northern American cities, the city is currently undergoing a period of restructuring.

In 1991, the metropolitan area had a labour force of 1.68 million workers. The distribution of the labour force by industry was as follows: construction, 5.3 per cent; manufacturing, 18.1 per cent; wholesale and retail trade, 17.8 per cent; finance and insurance, 6.6 per cent; transportation and communications, 8.3 per cent; business services, 7.3 per cent; government, 5.5 per cent; education, 6.4 per cent; health and social services, 9.4 per cent; lodging and restaurants, 5.7 per cent; miscellaneous services, 7.0 per cent; primary industries, 0.8 per cent. In 1992, there were 3,320 manufacturing establishments in the city of Montréal, with 85,000 employees. There were also some 20,700 consumer services establishments, with 161,000 employees.

INFRASTRUCTURE AND SOCIAL SERVICES

Since 1987, real estate has slumped in Montréal. The number of housing starts in the Montréal area declined from 42,024 in 1987 to 13,600 in 1993. The value of building permits dropped in real terms from a total of Canadian dollars (C$) 4.1 billion in 1987 to C$2.3 billion in 1993. According to the 1991 census, there were about 1.23 million dwelling units in the Montréal metropolitan area, 36 per cent of which were owner occupied, compared to 26.5 per cent in the central city.

Buses and the subway provide easy movement throughout the territory of the Montréal Urban Community. The subway has 65 stations and 60 kilometres of tracks underground. It is also the main axis of an entire underground city, permitting people to shop and to move about for miles without going outdoors.

Montréal is a hub for regional merchandise transit for central and eastern Canada. Its multifunctional and interactive transportation infrastructure (harbour, airports, trucking and railways) still gives the region a unique advantage. In 1992, traffic at the jointly managed Mirabel and Dorval International Airports was 112,188 metric tons for cargo, with 7.8 million passengers transitting at both airports. Traffic at the Port of Montréal was 16.5 million metric tons in 1993.

In 1992, the Montréal Urban Community had 74 hospitals and 6,140 physicians, as well as a complete network of local centres of community services (CLSCs) which manage various health and social programmes.

PLANNING ISSUES

In 1988, municipal authorities of Montreal presented the planning vision for the central district. The statement indicated that planning should be people-oriented, should reinforce the particular identity of the city, and should contribute to economic growth. Based on these general principles, the plan recommended expansion of the central business district, as well as the consolidation, revitalization and development of areas within the central city.

The Montreal city plan of 1992 identifies the goal of sustainable development for the city, giving priority to public transport, consolidating the central core and the downtown area, and improving the quality of life. The goal is "a modern city on a human scale". The plan also reflects efforts of Montreal to decentralize the city structure to the neighbourhood level, giving more decision-making powers to those who are directly involved.

MOSCOW
(Russian Federation)

Moscow, the capital of the Russian Federation (and of the former USSR), is a leading city in terms of population, industry, cultural, scientific and educational activities. Since its establishment in 1147, Moscow has played a vital role in Russian history. By the second half of the fifteenth century it had become the undisputed centre of a unified Russian State, being capital of Russia until 1712 and then resuming its status as capital in 1918.

By 1897, the population of Moscow had reached 978,000 and by 1918 it had doubled in size to close to 2 million. The beginning of the series of five-year plans in 1928 brought considerable industrial progress. Between the censuses of 1926 and 1939 the population of the city again doubled, from 2.03 million to 4.1 million. As most investment went into industry, housing construction was limited, resulting in the serious overcrowding of existing housing.

During the Second World War, the Germans reached the outskirts of Moscow (1941). The city was bombarded from the air and declared a state of siege. Following the war, however, recovery was rapid. In the post-war period, in-migration to Moscow exacerbated the housing shortage. Population density within the Garden Ring surpassed 51,000 persons per square kilometre by 1959. According to the development plan in 1960, adjacent satellite towns were incorporated into the city and a major construction programme was initiated. Urban growth was planned to be contained within the Moscow Ring Road, and residential and industrial zones and greenbelts were designated. Implementation of the plan helped to alleviate the housing shortage, to reduce traffic congestion and to improve air quality. However, urban growth outstripped the original limits and, in the 1980s, planned urban expansion was initiated beyond the Ring Road.

DEMOGRAPHIC CHARACTERISTICS

The population of the urban agglomeration of Moscow grew from 5.4 million in 1950 to 9.2 million in 1995. The average annual rate of population growth was 1.4 per cent during 1950-1975, declining to 1.3 per cent during 1975-1980. During 1980-1990, the rate of population growth was only 1.1 per cent per annum and decreased to 0.4 per cent during 1990-1995. The rate of natural increase declined from 1.9 per cent in 1980 to 1.7 per cent in 1985 and then became negative: -2.3 per cent in 1990 and -3.7 per cent in 1991. The population of Moscow is expected to reach 9.3 million by the year 2010.

Following the period of reconstruction in the early 1950s, Moscow experienced a sharp decline in fertility, with the crude birth rate declining from 27 per 1,000 in 1940 to 14.9 in 1950 and to 10.8 in 1965. It was characteristic for Moscow residents to have lower fertility in comparison with the population as a whole, partly because of higher levels of female participation and the higher educational levels of Moscow residents. In 1989, the crude birth rate in Moscow was 11.8, compared to 14.6 in Russia and 17.6 in the USSR. In 1991, the crude birth rate in Moscow declined to 9.2, compared to 11.2 for the urban population of Russia.

During 1920-1940, the level of mortality in Moscow was lower than that of the total population of the USSR, although the gap was steadily decreasing. During the 1950s, the crude death rate of Moscow residents reached the level of 7-7.5 per 1,000.

The decline in fertility in Moscow together with the decline in mortality resulted in the ageing of the city population. According to the 1989 census, 18.1 per cent of Moscow residents were 60 years of age or older, compared to 15.2 per cent in 1970, and to only 4.4 per cent in 1926. Ageing was particularly intensive among women.

The sex ratio in Moscow has also changed considerably throughout its history. In 1897, when mostly men migrated from the villages, there were 755 women for every 1,000 men. By 1920, when more families migrated to the city, there were 1,063 women for every 1,000 men. The prevalence of women in the population of Moscow remained in the following years, especially after the Second World War. In

1939, for every 1,000 men there were 1,157 women; by 1959, the ratio had increased to 1,355; in 1989, it was 1,224.

In light of the rapid decline in natural increase, in-migration has been the major source of the population growth of the city. During 1960-1971 and 1972-1981, for example, in-migration accounted for 76 and 84 per cent of the population growth of Moscow, respectively. Much of the in-migration has been a response to long-standing labour shortages. Migrants also were attracted by better living conditions and by social and communal services. Some 600,000 persons commute daily from outside Moscow to work in the city.

ECONOMY

Moscow is the largest industrial centre in the Russian Federation, with most of its industries requiring a skilled and educated labour force. The most important industries are engineering and metalworking, which employ more than half of the industrial workforce, producing automobiles, trucks, ball bearings and machine tools. Precision engineering is highly developed and is the most rapidly growing industry in Moscow, mainly producing measuring instruments and watches. The textile industry, which is also significant for the economy of the city, produces all types of natural and synthetic cloth. Other important industries include the chemical industry, electrical, electronic and radio engineering, aviation, timber processing, printing and publishing, and production of consumer goods such as foodstuffs, footwear, pianos and furnitures. The headquarters of nationwide state insurance and state banking organizations are also located in Moscow.

A formidable array of scientific research institutions constitutes the second largest employer in Moscow after industry. Whereas the share of industrial employment in Moscow declined from 33 per cent in 1965 to 24 per cent in 1989, the share of employment in the arts, science and scientific service increased from 17 per cent to 22 per cent over the same period. More than half of the labour force of the city is composed of women, who not only form the majority of workers in the textile and food-processing industries but also dominate in the teaching and medical professions.

INFRASTRUCTURE AND SOCIAL SERVICES

During the Soviet period many of the old buildings in the central part of the city were replaced by large office and apartment buildings in the modern, functional style. More open space has been created by constructing large squares and by widening many streets, including the Garden Ring. Inner Moscow has the functions typical of a central business district, concentrating most of the government offices and administrative headquarters of state bodies, hotels and larger shops, as well as the principal theatres, museums and art galleries.

The middle zone of the city between the Garden Ring and the Moscow Little Ring Railway has undergone the most urban renewal. Skyscrapers were built along the Garden Ring in the late 1940s and early 1950s. Most of the renewal that has taken place since 1960 consists of extensive neighborhoods of wide streets lined with rows of apartment buildings. Beyond the Garden Ring is the zone of modern factory development and extensive housing construction.

Moscow has for some time experienced a shortage of land. The 1971 general plan for Moscow contained proposals to build housing on land that would be costly to develop, requiring extensive drainage and filling. Since the late 1950s, the micro-district has come to be regarded as the basic building block for residential housing. A micro-district has a population of between 10,000 and 12,000 residents within an area of from one third to one half of a square kilometre. In addition to providing housing, the micro-district supplies all the many basic daily needs such as shops, child care, schools and laundry, all located within 200 metres of each household. A grouping of micro-districts with a population of between 30,000 and 50,000 residents forms a residential district, which provides a wider range of services within a 1,200 metre-radius, including a shopping centre, health clinic and entertainment facilities.

Between 1928 and 1954, housing was estimated to have absorbed 18 per cent of total capital investment in the national economy, with about half of this total concentrated in 1949-1954. Very little of this investment was made in Moscow, however, since the great majority was devoted to the construction of new towns, the rebuilding of cities devastated in the Second World War, and construction in rural areas. As a result, housing in Moscow became increasingly crowded so that, by the early 1950s, many families were housed in a single room. Despite the large-scale housing programme of the mid-1950s, population density in central Moscow within the Sadovaya ring road remained high, at about 50,000 per square kilometre as of 1964.

Compared to many cities, Moscow has relatively less segregation between industrial and residential areas. In 1973, there were 1,050 industrial enterprises located within Moscow. The long-term master plan divides the city into 65 industrial productive zones, with the goal of achieving a more even distribution of industry and reducing the journeys to work. In Moscow, proximity between industrial and residential areas is promoted by the common practice of having enterprises construct nearby housing for their workers.

Although the number of privately owned cars in Moscow is steadily increasing, there is heavy reliance on public transport and, in this respect, Moscow is generally well served. Public transport in Moscow relies on a well-developed mix of services, including underground trains, surface trains, buses, trolleybuses, trams and taxis. The route network is dense, service is frequent and fares are low. The most important transport mode is the subway, which extends to most parts of the city. Subway stations are spaced far apart so that it is usually necessary to use them in conjunction with bus, trolley and streetcar lines. New surface transport routes sometimes tend to lag behind housing construction and, as a result, new suburbs are poorly served for some time after their completion. There also are a large number of officially owned cars that have increased traffic congestion.

Up to the late 1950s there was increasing air pollution in Moscow. Smog could be observed, often with heavy concentrations of sulfur dioxide. A campaign to control noxious emissions was subsequently launched. A change-over from coal to natural gas as the principal fuel was implemented and a number of seriously polluting enterprises were moved out of the city.

In 1991, Moscow emitted 1,099,100 metric tons of harmful pollutants into the air. Among the major stationary sources were heating plants (50 per cent), chemical and petroleum industries (16 per cent) and machine building and metalworking industries (6 per cent). Current analysis of the air basin of the city indicates that there is a trend towards a small decrease in emissions from industrial enterprises (1-3 per cent a year). However, total emissions are growing, mainly due to the increase in emissions from motor vehicles.

Measures are being implemented to decrease emission from large enterprises that create an overconcentration of dangerous substances in neighbouring residential areas. A programme of technical reconstruction of power stations is also under way.

Water needs in Moscow are currently met by surface sources, mainly from reservoirs north of the city built in connection with the Moscow Canal. Also, water is drawn from the Moskva River and pumped into underground storage reservoirs. Up to the early 1960s, the discharge of untreated sewage and industrial effluents produced extremely severe pollution of the Moskva and increasing pollution of underground waters. Heavy investment in anti-pollution and water purification measures in the mid-1960s resulted in improvement of the situation. Steady progress also has been made in controlling the discharge of industrial effluents. Moreover, the discharge of untreated sewage has ended.

In recent years, due to the introduction of economic regulations regarding the use of nature, pollution of the water basin has decreased and the quality of water has improved, particularly in regard to concentrations of heavy metals. To further improve the environmental conditions of the city, an environmental programme is currently being implemented which includes: creation of a system for collecting and recycling wastes from galvanizing industries; implementation of public works for the rehabilitation of the city water protection zones; introduction of water-saving technologies; and improvement of the collection, removal and treatment of sewage, including the construction of effective purification systems.

At present, domestic waste in Moscow is disposed of in landfills. However, the capacity of these landfills will be exhausted in several years. Therefore, a new waste collection strategy has been adopted, which includes a new system for the collection and transportation of domestic wastes; reconstruction of incinerator No. 2; construction of three new plants using imported equipment; and construction of a new landfill.

Moscow has a large number of educational establishments. There are nurseries and kindergartens for children below school age, many of whom are attached to places of employment. Currently, there is an attempt to emphasize vocational rather than academic training. Concerning health facilities, hundreds of clinics provide free medical, dental and pre-natal care to all Moscow residents. Lately, an element of cost accounting has been introduced in some areas of the health sector.

PLANNING ISSUES

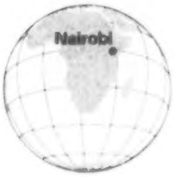
The June Plenum of the Central Committee in 1931 set population limits for Moscow and called for a comprehensive city plan for the reconstruction of Moscow, which has come to be an example for many other Soviet cities. A zoning map was proposed, with specification of land-use zones. A green belt around the city was also designated. Some new industrial enterprises were to be located outside the green belt and some existing industrial enterprises were to be relocated outside Moscow. One aim of the plan for Moscow was to reduce residential densities in the city centre and to increase densities in peripheral areas. Residential districts were to be established, each with a population of between 100,000 to 600,000 residents, and including all urban amenities and cultural facilities. Given the importance of the national drive for industrialization, however, this element of the plan was neglected until the mid-1950s.

In practice, city planning was often overridden by the locational decisions of the ministries responsible for industry, which frequently argued that it was more efficient to locate new industries in an existing city with established infrastructure and a skilled labour force than in a new city. While there were efforts to increase the powers of the local authorities in locating housing and industry, decision-making regarding the spatial organization of Moscow has been affected by the more powerful Ministry of Industry.

As of the mid-1970s, urban planners responsible for the Moscow region emphasized the diversion of growth of population, industry and research activities away from the central city and towards satellite towns outside the green belt surrounding Moscow. Another objective was to relocate polluting industries and to restrict the number of new industries located within the city boundaries. Once again, however, more powerful agencies of the central Government were more preoccupied with maximizing industrial growth. The continuing need for labour therefore resulted in a conflict between planning policies and the need to recruit industrial labour.

In-migration to Moscow has been subject to longstanding administrative regulations requiring official permission to reside in the city. Generally, migration to Moscow was possible through three main channels: marriage with a Moscow resident; entering into a labour contract with an enterprise which had a right to provide temporary or permanent registration for residence; or enrolment in an educational institution.

NAIROBI
(Kenya)



Nairobi, the capital of and the largest city in Kenya, is a landlocked city located 480 kilometres northwest of the port of Mombasa on the Indian Ocean. Once the site of a waterhole used by Masai herdsmen, Nairobi was selected in the 1890s as a convenient construction encampment and supply depot on the railway being constructed between Uganda and the coast. In 1899, Nairobi was designated a town, with an area of 18 square kilometres. Upon completion of the railway in 1905, the headquarters of the colonial Government was moved from Mombasa to Nairobi. From that point on, Nairobi embarked on a course of steady expansion, increasing its area to 25 square kilometres in 1920, 90 square kilometres in 1927 and 680 square kilometres at present. In 1950, Nairobi officially became a city and in 1963 it was designated a separate province.

DEMOGRAPHIC CHARACTERISTICS

The population of the urban agglomeration of Nairobi grew from 87,000 in 1950 to an estimated 2.1 million in 1995. The average annual rate of population growth declined from a high of 9.2 per cent during the period 1950-1965 to 4.9 per cent during 1970-1980, increasing to 6.3 per cent during 1990-1995. The population of Nairobi is projected to grow to 2.7 million by the year 2000. Migration from rural Kenya has played an important role in the growth of the city. During the period 1950-1995, the percentage of the total population of the country residing in Nairobi increased from 1.4 to 7.4 per cent.

The infant mortality rate in Nairobi for the period 1979-1989 (1989 Demographic and Health Survey) was 46 per 1,000. This represents a significant decline from the rate of 71 per 1,000, which was estimated for Nairobi 10 years earlier in the World Fertility Survey of Kenya. In 1985, the city had a density of 1,699 per square kilometre.

ECONOMY

Nairobi is the financial, commercial, industrial and tourist centre of Eastern Africa, and the main industrial centre of Kenya. The greater Nairobi region has majority of the manufacturing enterprises in Kenya. About 56 per cent of the total labour force of the country is employed in the industrial sector of Nairobi. The industries of the city produce plastics, furnitures, textiles, cement and building products, beverages, cigarettes, processed food and petroleum products. Tourism is an important source of revenue for the city, and the railway is a major source of employment. A number of primary products such as coffee, tea and livestock are exported to Nairobi through Mombasa. An oil refinery also produces refined products that are exported.

During 1977-1985, the number of wage-earners in Nairobi province grew from about 235,000 to over 327,000. In 1985, the distribution of wage employment by industry for Nairobi province was as follows: manufacturing, 18.7 per cent; construction, 8.4 per cent; wholesale and retail trade, restaurants and hotels, 12.9 per cent; transport and communications, 7.1 per cent; finance, insurance, real estate and business services, 11.3 per cent; and community, social and personal services, 35 per cent. The budget of Nairobi City Council is not sufficient to sustain the provision of services in the city. Faced with a shortage of revenue, the Council has kept borrowing money, leading to its indebtedness.

INFRASTRUCTURE AND SOCIAL SERVICES

In terms of land use, Nairobi is divided into six areas: four residential areas, one industrial centre and the central business district (CBD). The four residential areas cover about 84 per cent of the city. The industrial centre has over 90 per cent of all industries and 86 per cent of the warehouses of the city. The central business district functions as the centre of Government as well as of commercial activities.

Migration into Nairobi has resulted in increased demands for housing. The 1983 Urban Housing Survey estimated annual demand in excess of 20,000 new housing units for Nairobi. The public and formal private sectors, however, were only building about 5,000 units per annum, falling far short of demand. The gap was filled by the construction of unauthorized units by the informal sector. Estimates for the late 1980s indicated that between 30 and 40 per cent of the population of Nairobi were living in substandard housing in unauthorized settlements. Many of those slums and squatter settlements were without adequate services and facilities.

Under colonial rule there was strict control of in-migration to Nairobi and segregation of residential areas along residential lines. The formerly exclusive areas of European residence have low densities and large lot sizes. As a result, one tenth of the population of Nairobi occupies about two thirds of the available residential land. In an urban household budget survey conducted by the Central Bureau of Statistics in 1981, 69 per cent of households had total household earnings classified as low income (less than US$1,500 per annum), 26 per cent were classified as middle income (US$1,500-$6,000 per annum), and 5 per cent as high income (more than US$6,000 per annum). According to a survey of six low-income neighbourhoods conducted in 1983, 36 per cent of households had piped inside water, 27 per cent had electricity and 20 per cent had a toilet; there was an average of 3.4 persons per room.

One of the critical problems confronting the administration of Nairobi is the poverty of the city residents and large numbers of children who live on the streets. As many as half of Nairobi residents live in slum conditions and estimates of the number of children scavenging and living on the streets reach as high as 130,000. Some of the children are working members of their families, begging or soliciting to supplement the family's income, while others are runaways. According to city authorities, many children are drawn into the growing drug scene in Nairobi.

There are approximately 1,900 kilometres of road in Nairobi, about 1,300 of which are paved. While the 250 kilometres of main roads are mostly in good condition, about half of the secondary road network is in poor condition and recently has been deteriorating. According to an urban transport survey conducted in 1981, 50 per cent of trips to work in Nairobi were by public transport, 24 per cent were by foot, 22 per cent by car, and 4 per cent by bicycle. The number of motor vehicles registered in Nairobi grew from about 90,000 in 1975 to 139,000 in 1987.

Currently, the level of water consumption is about 260,400 cubic metres per day. The city has three main types of sewerage: The conventional sewerage system covers about 50 per cent of the central and old city area, septic tanks cover about 25 per cent and are largely used in high-income (low-density) sections of the city, whereas pit latrines cover the squatter and shanty town settlements and other high density areas. With respect to refuse collection and disposal, the city has adopted a central collection system, using the collected waste for landfill. The system, however, is inadequate everywhere and non-existent in low-income areas. In order to increase the capacity for sewage treatment, the city is planning to construct waste stabilization ponds. Some parts of this project already have been completed.

NEW YORK
(United States of America)

New York is a major business, cultural and retail centre in the United States of America, and a leading world centre for trade and finance. Metropolitan New York is spread over a surface area of over 33,000 square kilometres, with a population density of about 600 per square kilometre in 1985. Population density for the City of New York was 8,722 per square kilometre in the same year. The Tri-State Region consists of New York City and the surrounding counties that radiate outward about 100 miles into the states of New York, New Jersey and Connecticut. The largest concentration of residents and jobs in the region is in the five boroughs of New York City, especially the borough of Manhattan.

DEMOGRAPHIC CHARACTERISTICS

The population of the urban agglomeration of New York grew from 12.3 million in 1950 to 16.2 million in 1970. The number of inhabitants declined thereafter, reaching a low of 15.6 million in 1980. After 1980, the population of New York began to grow again, reaching 16.3 million in 1995. The average annual rate of population growth was about 1.4 per cent in 1950-1970. During 1970-1980, the population declined by an average annual rate of about -0.4 per cent. One reason for the declining population during the 1970s was the continuing out-migration. New York City accounted for nearly all the out-migration of the region. Since 1980, growth has again become positive, with an annual rate of 0.3 per cent for 1980-1995.

The Tri-State Region has higher infant mortality than the rest of the nation (12.1 vs. 11.7 deaths per 1,000 live births in 1981). The crude death rate in the Tri-State Region also exceeds the national rae (9.3 vs. 8.7 per 1,000 population in 1981). The higher death rate is related to the higher infant mortality rate, older age structure and higher death rates due to heart disease and cancer. Due to a lower birth rate and higher death rate, natural increase in the Tri-State Region is lower than in the rest of the country.

ECONOMY

In 1982, the Tri-State Region produced US$333 billion of goods and services, which accounted for 11 per cent of national output. About 80 per cent of this output originated in service industries. Finance, insurance and real estate were the largest contributors to the gross regional product (GRP). By the year 2000, it is expected that the most rapid growth will occur in finance, insurance and real estate, business services, international earnings, non-profit services, and transportation and communications.

As in the nation as a whole, there has been a shift within the region from goods-producing or manufacturing jobs towards service occupations. In 1982, for example, only 21 per cent of jobs were in goods-producing sectors, whereas 79 per cent were in service and information producing sectors. A major barrier to more rapid economic growth has been the relatively high cost of doing business in the region. Despite continuing erosion of its relative primacy as a leading global city, New York still retains its position as one of the world's most important financial markets. It remains the headquarters of many major national and international corporations and organizations, even though some corporate operations have moved to less expensive locations.

Over the past 15-20 years, the competitiveness and growth prospects of the city have been negatively affected by two trends that have forced higher local taxes and recurring budgetary difficulties. First, federal subsidies have been increasingly curtailed. Secondly, the responsibility for paying for federally mandated programmes, such as Medicaid and welfare, has been increasingly shifted from the federal government to municipal governments. This has meant an increasing burden on city and state taxpayers and decreasing competitiveness for cities such as New York.

In 1985, the economically active population of the metropolitan area was more than 8.5 million. In the same year, over half a million of the region's residents were unemployed, although 1.3 million more persons were employed than a decade earlier. It is expected that the number of jobs and the resident labour force will rise by 20 per cent before the end of the twentieth century. The new jobs will require a more highly specialized, skilled workforce.

INFRASTRUCTURE AND SOCIAL SERVICES

In the 1950s, rent controls were instituted as a democratically popular response to what was perceived as excessive profiteering by landlords. By the late 1970s, there were clear signals that this policy had led to poor maintenance and lack of services in some buildings, as well as increasing abandonment of unprofitable properties. As a result, rent controls are gradually being phased out. As of 1980, cut-backs in federal aid had cost New York billions of dollars. Funds for subsidized housing, for example, dropped by $16 billion. While the average number of persons per household is decreasing, the average size of housing (rooms per unit) is increasing. Given the high cost of housing, it will be particularly difficult for the lower income population to find affordable housing. Homelessness has become a major issue in the 1990s, with estimates of the homeless population in central Manhattan ranging as high as from 70,000 to 90,000.

In 1984, the Manhattan central business district was the workplace of 2 million persons. Almost 88 per cent of those workers arrived at their place of employment by public transportation (subways, buses and commuter trains). About 12 per cent of the labour force of the Tri-State Region commutes into New York City. The subway network is 368 kilometres long. It is served by 6,125 subway cars and it carries nearly 1 billion passengers per annum. Due to economic and demographic changes, however, subway ridership has declined steadily from a peak in 1947. The New York City Transit Authority (NYCTA) bus system operates more than 3,800 buses along 1,598 kilometres of streets and carries approximately half a billion passengers per year. Bus ridership has declined less rapidly than subway ridership. In the 1960s and, to an even greater extent following the fiscal crisis of the 1970s, New York followed a policy of reducing investment and maintenance spending on public transit. In the late 1980s, the New York subway system underwent a substantial overhaul, with extensive replacement and refurbishment of rolling stock and old track. Fares have been raised, and a policy of increasing cost recovery has been followed.

Health care is an important growth industry in New York. It generates 7,000 new jobs a year and more than $1 billion in construction. One of every 12 private-sector jobs in New York City (about 250,000) is in health-care services. These jobs have been increasing at a rate of about 3 per cent per year.

New York City generates 23,600 metric tons of waste per day. In the past, most waste material went to the 8 incinerators and 11 landfill sites of the city, but in the past two decades, environmental concerns have forced a sharp reduction in disposal facilities. The Department of Sanitation currently depends on its huge Fresh Kills Landfill on Staten Island which covers 1,214 hectares and served by barges. When this site is closed, alternatives will have to be found for waste disposal, and New York has responded to the challenge by adopting a 10-year Solid Waste Management Plan and by launching the most ambitious recycling programme of the country.

The plan was prepared with the help of a computer model called WastePlan, developed by the United States Office of Technology Assessment. New York City planners were able to consider the effects of different combinations of prevention and collection programmes. WastePlan allowed consideration of economic impacts, air and water quality, traffic, noise and effects on existing utility and infrastructure systems. It also used demographic and economic assumptions to project future quantities of waste, and it identified the types of facilities best suited to handle waste, as well as their most convenient locations.

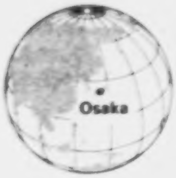
New York's plan seeks to minimize the economic and environmental costs of waste disposal. One goal of the plan is to reduce the amount of waste generated, and the city aims for a 9 per cent reduction by the year 2000. Another goal is to increase the share of waste that is recycled; this involves developing markets for recycled products. For example, a paving material for city streets called "glassphalt" would use recycled crushed glass as an ingredient. By the year 2000, New York aims to recycle 42 per cent of its waste, and it expects to be collecting more types of recyclable materials. The plan also mandates construction of a waste-to-energy conversion facility and upgrading the operating incinerator of the city.

PLANNING ISSUES

The 1929 Plan of New York and Environs indicated the need for deconcentration and lowering population density. The plan was enormously successful because it preceded and encouraged official planning at the state and local levels. The plan guided public works, such as highways, bridges, tunnels, airports and marine ports. It set development standards, such as superblock, neighbourhood unit,and parks and subways. The Second Regional Plan was a recentralizing plan which aimed at rebuilding a number of older downtown areas into regional subcentres. In the case of New York City, the second plan (1968) identified borough centres for this purpose.

There has never been an official federal, state or city Government policy of limiting the growth of the city. The cessation of growth in the 1970s was part of a general counterurbanization trend in the United States and other developed countries. Rising relative costs of doing business and of living in New York as compared with other locations probably contributed to New York's temporary population decline. New York became relatively expensive in part because of rising taxes, in part because of increasing land prices, and in part because of costs mandated by well-organized trade unions. Offset against this were agglomeration economies, which permitted continuing growth for a number of years despite high costs.

OSAKA
(Japan)



Osaka, together with the nearby city of Kobe, forms the second largest urban and industrial agglomeration in Japan. It is located on Osaka Bay at the mouth of the Yodo River. The site has been inhabited for at least 2,000 years. Ancient burial mounds in the vicinity have yielded artifacts produced by early settlers from Korea, who brought pottery and woven cloth to Japan around 200 A.D.

In the sixteenth century, Osaka became the centre of national power when the warlord Toyotomi Hideyoshi built a castle of stone walls and moats and used it as his base while he brought all of Japan under his control. The castle, which was subsequently destroyed and rebuilt, stands on a plateau east of the main metropolitan area.

The inner city of Osaka is a small area physically—only 213 square kilometres—but the metropolitan area consists of 7,755 square kilometres and encompasses the densely inhabited district (DID) of Osaka as well as DIDs of 36 cities surrounding Osaka, the DID of Kobe and DIDs of seven cities surrounding Kobe.

DEMOGRAPHIC CHARACTERISTICS

Osaka began to grow rapidly after the Second World War. By 1950, its population was slightly more than 4 million, and its average rate of growth during the 1950s and the 1960s exceeded 4 per cent per annum. Between 1965 and 1970, the annual growth rate was 5.1 per cent and in 1970 its population was 9.4 million. Growth decelerated abruptly in the next decade, declining to less than 1 per cent in 1970-1975 and to only 0.3 per cent in 1975-1980. The population grew slowly during the period 1980-1995, at an annual rate of about 0.4 per cent. The United Nations estimated that Osaka was the thirteenth largest city in the world in 1994, with a population of 10.6 million.

Movement to the suburbs has changed the age structure of Osaka. Couples aged 25-40, especially those with young children, left the city centre in large numbers during the 1970s and 1980s. At the same time, fewer young people migrated to the city and the birth rate declined. All these factors contributed to a population decrease in central Osaka and resulted in a higher average age of the remaining population. In 1990, the percentage of people aged 65 or over in Osaka was nearly 12 per cent, and 23 per cent of the households in the city had at least one elderly member. Infant mortality in Osaka is very low: in 1992, only 6.6 infant deaths per 1,000 live births were recorded.

ECONOMY

Osaka was once known as the "Manchester of the Orient" because its economy was dominated by the production of textiles. Textiles are still important, but other industries--iron and steel products, chemicals and electrical machinery--have gained prominence. Concern about environmental pollution has led to the decentralization of heavy industries, and many of them now have been relocated outside the major cities of Japan.

To compensate for the loss of large factories, Osaka has concentrated on attracting non-polluting medium-sized and small industries that can flourish alongside residential areas. The City Industrial Town (CIT) construction enterprise aims to convert the sites of former large factories to smaller, environment-friendly businesses. The project creates jobs in inner city locations without degrading the environment. An effort is also under way to make Osaka an international city of communication and information in the twenty-first century by developing a "techno-port" that contains the most advanced facilities for technological development, international trade, and information and communication services.

For decades Osaka has been a leading commercial and financial centre of Japan, although some trading companies have transferred their centres of activity to Tokyo in recent years. Osaka and Kobe together constitute the busiest port of the country for foreign trade. The service industry has been growing steadily and is expected to be a major source of employment in future years. In 1991, wholesale and retail trade employed 36 per cent of the labour force of Osaka, followed by services (22 per cent), manufacturing (18 per cent), construction (8 per cent), transportation (7 per cent), and finance and insurance (5 per cent).

INFRASTRUCTURE AND SOCIAL SERVICES

Transportation for commuters has become one of the priorities of Osaka. Many people live in the suburbs and commute daily to jobs in the city centre. The Japan National Railways is responsible for inter-city travel, including the famous "bullet" express train, but suburban commuter service is provided by private electric lines. Capacity has been increased by installing two-track lines and adding more coaches to trains, and quality has been improved by providing heat and air conditioning and installing television screens on some coaches. A subway system, begun before the Second World War, has been updated and expanded regularly. In 1982 the subway system transported 2.3 million passengers per day, compared to 351,000 transported by buses.

Automobile ownership has increased in Japan since 1960, resulting in traffic congestion and associated problems, including accidents and environmental pollution. To improve traffic conditions, the city is eliminating ground-level railway crossings, perfecting the traffic control system on trunk roads, and attempting to make public transportation more attractive to commuters.

Much of the housing stock in Osaka was destroyed during the Second World War, but a post-war building boom greatly increased the available residential space. Most of the new housing, however, were smaller than the 86 square metres recommended by the Ministry of Construction as the amount of living space for a family of four. In 1978, 62 per cent of the owner-occupied houses and 88 per cent of the rented houses were smaller than that standard.

The ageing population in Osaka presents a challenge to the social services of the city to provide help for older people whose families are unable to care for them. The focus is on home and community care for elders rather than more expensive institutional care. In 1990, Osaka adopted "The Miotsukushi Plan for Aging with Vitality", which established long-term guidelines for policies to meet the demands of an ageing society. Recognizing that one fourth of the population is expected to be 65 or over by 2008, the plan aims to create a pleasant, safe, caring living environment for elderly persons. In addition, Osaka City began in 1991 to organize Community Network Committees that identify the needs of the elderly and provide appropriate services. The committees are expected to form the basis of a community support system for the aged that enables them to stay in their own homes and lead independent lives.

PLANNING ISSUES

The Osaka City Comprehensive Plan, drawn up in 1977, established a population goal of 3 million people for the central city in 1990. It outlined changes required in housing, job creation, transportation and amenities that would be needed to attract a younger, vital population to the city. Managers in Osaka have devised innovative ways to publicize the advantages of urban life and attract suburbanites back to the city. The Osaka Castle Quadricentennial featured an exposition, parade and sailing event to appeal to spectators who were able to see the positive urban development in the city. Additional celebrations are planned into the twenty-first century, including the 1,000th anniversary of the City of Osaka.

PARIS
(France)

Paris, he capital of France, is located in the north central part of the country on both sides of the Seine River. A city over 2,000 years old, it was founded on an island, the modern Ile de la cité, some 375 kilometres upstream from the English Channel by a Gallic tribe known as the Parisii. The settlement, which was known until the early fourth century as Lutetia (meaning Midwater Dwelling in Latin), was captured by the Romans in 52 B.C., but was conquered by Clovis, the King of the Franks, in A.D. 486 and was made capital of Gaul. It was established as the capital of France in 987.

The historical city of Paris consists of the city centre, the Ile de la cité, which is the seat of religious and temporal authority; *rive gauche*, or left bank, which is the seat of intellectual life; and *rive droite*, or right bank, which is the heart of the economic life of the city. Paris is the political, commercial, industrial, cultural and social centre of France. It is also one of the main tourist attractions in Europe.

DEMOGRAPHIC CHARACTERISTICS

The population of Paris was growing rather rapidly until the Second World War, doubling in size between 1801 and 1856, when it reached 1.2 million. Between 1861 and 1962, while the population of France increased by less than 19 per cent, the population of Paris almost tripled. However, after 1954, Paris began to lose population steadily, from 2.85 million in 1954 to 2.3 million in 1975, and to 2.12 million in 1986. This decreasing trend ceased during the 1980s, and Paris actually experienced a small increase in its population size, which stood at 2.15 million in 1990. The development of transportation enabled the growth of the city periphery and surrounding centres.

In 1962, two out of three residents of Paris had been born elsewhere. The main causes of migration to the Paris region were disparities in living conditions, employment opportunities and incomes. Two main migration patterns predominated, including movement from other parts of France to the Paris region, and another flow extending outward to the peripheries, suburbs and other cities within the Ile-de-France region. As early as 1800, depopulation of the city centre benefitted outlying districts and during the 1900s, outlying areas went through a process of urbanization which significantly transformed the social structure of the city population. Between 1954 and 1975, while the population of Paris decreased by 19 per cent, the number of executives increased by 51 per cent and the number of workers decreased by 44 per cent. The age structure of Paris also changed due to the out-migration of families with children in search of larger and less expensive homes in the suburbs, and the in-migration of young singles and couples without children.

The population of the Paris urban agglomeration was estimated at 9.5 million in 1995, and is expected to reach 9.6 million by the year 2010.

ECONOMY

Paris is not only the centre of the principal river basin of France and one of the most fertile agricultural regions, but it is also the chief industrial and commercial city, the centre of international trade as well as the banking and insurance headquarters of the country. Eighty per cent of the main offices of national industries are located in the central city. Manufacturing industries, which predominate in the northern suburbs, include the automobile and aeronautics industries, electronics industries, chemical and pharmaceutical industries, and food industries. Another major industry, the manufacture of luxury items including precious metalware, leather crafts, china and fashion design, is concentrated primarily in the central *arrondissements*, or municipal districts. Furniture making, shoemaking, precision-tool production and the manufacture of optical instruments are found in the outlying *arrondissements*. Printing and publishing are located in the oldest part of the Left Bank known as the Latin Quarter and the Rue Reaumur. Many banks, both national and international, and insurance companies have their headquarters in Paris. The majority of French motion pictures are produced in the Greater Paris area. Tourism is also an important industry in

Paris whose cultural, educational, business and recreational opportunities attract people from around the world.

During the past 20 years, the decline in the manufacturing sector has been offset by the growth in services and tertiary activities, which currently represent some 70 per cent of total employment.

INFRASTRUCTURE AND SOCIAL SERVICES

Urban planners in Paris have long been sensitive to the needs of a conurbation which was rapidly evolving both economically and demographically. Ample financing, a sound administration and farsighted planning have enabled Paris to enjoy an efficient infrastructure. Baron Haussmann, the city planner, was the creator of modern Paris. Advocating straight arterial thoroughfares, symmetry and vistas to improve the circulation of pedestrian and vehicular traffic, Haussmann began the enormous task by large-scale demolition of existing structures. Roads and railways in France were designed to converge on Paris from all directions.

The central Government contributes more than half of the city revenues, 40 per cent of the city operating budget, and half of most large projects such as schools, sewers and day-care centres. In addition, the state finances public hospitals in Paris, covers almost all welfare costs, and pays the salaries of teachers, police officers and firefighters. Both the central and city governments subsidize Parisian cultural life, including museums that are important tourist attractions. Moreover, the city profits from a tradition of cultural-architectural projects sponsored by the Presidents of the republic: *Centre Pompidou* (or *Beaubourg*) erected by Georges Pompidou; the *Musée d'Orsay* and the Museum of the *Cité des sciences*, by Valery Giscard d'Estaing; the glass pyramid of the Louvre, *Opera Bastille*, the futuristic Finance Ministry of Bercy, and the *Grand Arche* at the Defense by François Mitterand.

Public transportation in Paris is organized by the Regie Autonome des Transports Parisiens (RATP), which oversees the double network of the underground railway popularly known as the Metro, as well as buses. The system, which is organized so that one is rarely more than 600 metres from a metro station, is under pressure to service suburbs and relieve traffic congestion. The subway runs one train every 80 seconds at rush hour. A high speed train network connected with the subway, the *Réseau Express Régional* (RER), offers radial service to the suburbs. The transportation network in the suburbs is such that virtually no point in the conurbation is more than three kilometres from a suburban line. However, traffic congestion remains a major problem. The city is attempting to solve the traffic crisis through drastic plans that strive to increase circulation through the main axes by forbidding parking or stopping on certain axes during work hours, by instituting heavy fines, and by reducing the number of parking places.

Lack of affordable housing is another problem in Paris proper. Economic realities since 1980 have forced lower income groups who cannot afford the high rents on the open market to live in the suburbs. The shortage of land for new housing and the limits which have been placed on building heights, together with inflation and increased demand, have made housing in Paris very expensive. The high prices and lack of apartments larger than one or two rooms have pushed families to the suburbs and accelerated population decline in the central city. Currently, only the well-to-do can afford to live in Paris. The outskirts have seen urban renewal and the growth of large residential blocks; new towns located 30 kilometres from Paris, begun in 1969-1973, can accommodate a population of approximately 300,000-500,000. There are an estimated 6,000-15,000 homeless persons who are permitted to live for up to six months in 60 Government-run or private shelters where they receive medical care and job training.

As much as 10 per cent of the city budget is devoted to sanitation: garbage is picked up seven days a week, all the streets are swept by hand, and business and tourist streets are cleaned twice daily.

PLANNING ISSUES

French urban planners have directed their efforts at improving infrastructure so as to keep pace with the demographic and economic growth of the city. Since the major problem of French urban development was the dominance of Paris and the scarcity of other large metropolises, the main preoccupation of urban planners after the Second World War was to accelerate the growth of other regional metropolises. In 1958, a Master Plan proposed to reduce migration to Paris to 50,000 a year (a decrease of 50,000-80,000 from the annual volume for the period 1955-1960), and to equip suburban areas with essential community services and facilities, thus relieving the pressure on central areas.

A national strategy for urban growth, which was formulated in 1964, aimed at reducing migration to Paris, which was felt to be occurring at the expense of the remainder of the country. An elaborate incentive system was devised to restrain the growth of Paris and to promote industrial development in other regions. Coupled with a restriction on building permits, those measures succeeded in curbing the rate of increase of large new industrial establishments in the Paris region. The Fourth Plan (1962-1965) did not intend to curb the growth of the Paris region, but rather to slow excessive migration from the provinces. It stressed the need for modernization and decentralization of existing industries to the north, west and east, and created programmes to develop university and cultural facilities and to shift certain government agencies to the ring of cities surrounding Paris.

The anticipated need to decentralize Paris and to accommodate a significant population increase led to a new *Schéma Directeur* for the Paris region in 1965: 3 regional express lines, 10 principal radial highways plus secondary auto routes, 3 ring roads, provision of essential utilities and community services in the outer areas, and a major effort to change the shape of the city by stressing an east-west linear travel network and growth patterns to reduce traffic bottlenecks. The Fifth Plan (1966-1969) was designed to relieve population pressure by accommodating households in the outer cities and in eight self-contained new towns in the Ile-de-France region, while reducing access to housing finance, and permits to build or expand industrial establishments in the Paris region. It also proposed to develop the *métropoles d'équilibre* (Marseille, Lyon, Toulouse, Bordeaux, Nantes-St. Nazaire, Metz-Nancy, Strasbourg, and Lille-Roubaix-Tourcoing) to balance the influence of the Paris region. In recent years, in an effort to contribute to the regrowth of inner Paris, there have been efforts to rehabilitate the eastern part of the central city, mainly through initiatives of the private sector.

PORT-AU-PRINCE
(Haiti)

Port-au-Prince

Port-au-Prince is the capital of Haiti. The city is the administrative and political centre of Haiti, as well as its principal port, commercial centre and the major industrial pole. Port-au-Prince was founded by the French in 1749 and suffered destruction from earthquakes and fires on several occasions. For many years, the city functioned mainly as an administrative and political capital. Progressively, however, during the twentieth century, it gained in economic importance, becoming virtually the only important city in the country in recent decades.

DEMOGRAPHIC CHARACTERISTICS

From a population of 1,200 in 1749 when the city was founded, population growth has gradually accelerated. In 1950, the city had a population of 134,117, five times that of the second largest city in the country, Cap Haitien. The trend increased in subsequent years, especially in the 1970s, when the city became the chief economic centre of the country. In 1970, Port-au-Prince had a population of 461,000; it grew to 701,000 in 1980 and to 1.04 million in 1995. The population of the metropolitan area of Port-au-Prince is projected to reach 2.2 million in 2000.

Population growth is sustained by rural-urban migration resulting both from the attraction of industrial development in the city and from the deterioration of the rural economy. For some, Port-au-Prince is a temporary stop in the process of emigration to other countries. There are also important flows of female migrants to jobs in urban industries, and of children and young people who come for education. In the 1980s, the city was home to 14 per cent of the national population and more than half of the urban population of the country. About half of the population growth in Port-au-Prince is due to natural increase. Mortality continues to remain high; life expectancy at birth is estimated at 55 years. Fertility is also high; in the 1990s, it was estimated to be 6.3 children per woman. Attempts to launch an effective family planning programme have been constrained by the economic situation in the country. For example, a decline in family planning occurred between 1977 and 1983 because of the disruption of contraceptive supplies.

ECONOMY

Between 1957 and the beginning of the 1970s, Haiti experienced marginal economic growth, partly because of political turmoil in the country. However, during the 1970s, the country experienced an expansion of assembly industries in the tax-free zones (zona franca), two of which were located in Port-au-Prince. The number of assembly industries in Haiti, particularly in the textile and toy industries, increased from 49 in 1971 to 200 in 1981. Most of these facilities were located in Port-au-Prince. During this period, the primary sector had a declining percentage of the gross national product of the country in favour of manufacturing industries. The process was accompanied by expansion of local industries, especially food processing and construction, which were concentrated almost exclusively in the metropolitan area of Port-au-Prince. Further concentration was supported by the traditional pattern of political and administrative centralization and by the attraction of the capital as the primary location equipped with modern infrastructure. The closing of the other ports of the country in the early 1970s contributed greatly to the decline of secondary cities on the coast. Industrial development in this period was accompanied by a significant deterioration of the rural economy, resulting in an increasing gap between rural and urban incomes. In 1978, it was estimated that average per capita income in rural areas was less than one seventh of the level in the metropolitan area. This situation resulted in rural-urban migration and produced a population concentration in Port-au-Prince that was beyond the absorptive capacity of the city.

Port-au-Prince has a monopoly on industrial activity and employment in Haiti; in 1971, the capital had 291 industrial establishments, compared with only 11 in the second most industrialized city. In the 1980s, approximately 40 per cent of national income was produced within the capital, which offered about 90 per cent of industrial employment. At the end of 1970s, Port-au-Prince had almost all modern services and 90 per cent of the tourist facilities and services of Haiti. It is estimated that 65 per cent of international maritime traffic and all international air traffic pass through its harbour and airport. Government offices are almost exclusively located in the city.

Although industry contributes about 20 per cent of gross national product, it employs only 7 per cent of the labour force. Services and commerce account for the majority of the labour force in the city. However, much of the employment is in the informal sector. In 1988, it was estimated that underemployment in Port-au-Prince affected more than half of the population. Three quarters of the population live below the absolute poverty level. Malnutrition remains a major problem. The phenomenon of street children in the city has been increasing; it was estimated that there were 5,000 such children as of 1988.

INFRASTRUCTURE AND SOCIAL SERVICES

The geographical expansion of the city was relatively slow until the 1970s, when industrial development attracted significant migration flows. As a result, the metropolitan area expanded and changed significantly. New districts appeared and social segregation increased. "Popular cities" emerged, such as Cité Soleil (formerly Cité Simone), and the provision of basic services became a problem. Improvement in the production of electricity in the 1970s primarily benefitted the industrial sector, while residential areas experienced deficiencies in service deficits. The problem of drainage first occurred in the 1970s and has not yet been resolved.

Steady migration has led to unregulated construction and spontaneous and/or illegal settlements in marginal areas completely lacking services. Especially since the mid-1980s, settled areas have been surrounded by a ring of squatter settlements. Moreover, shanty towns have grown up in the interstices between the residential and commercial districts. In fact, any piece of land that is not protected is immediately occupied by spontaneous settlements. Entire portions of roads in the market districts also have been occupied, with tents completely obstructing circulation. These spontaneous and illegal settlements account for about 65 per cent of the total number of dwellings in the city. Residential areas with services and spontaneous settlement compete for services with the latter, diverting water supplies and setting up clandestine electricity connections. In 1988, 72 per cent of the population of the city was not connected to the water supply network and had to purchase water; however, 92 per cent of dwellings had electricity, which is an indicator of widespread illegal hook-ups.

PLANNING ISSUES

Although the national policy has the stated objective of achieving balanced regional growth and diverting population and economic activity away from Port-au-Prince, there is a de facto public investment policy of maximizing production and economic growth within the capital rather than redistributing it elsewhere, which has had the effect of concentrating activity in Port-au-Prince.

PORT MORESBY
(Papua New Guinea)

Port Moresby

Port Moresby is located in the south-east corner of the island of New Guinea. It was named after the British explorer, Captain John Moresby of the Royal Navy, who sailed into the harbour in 1873 and spent several days trading with the local villagers. A year later, the London Missionary Society arrived and established themselves in this settlement. They were soon followed by traders, adventurers and persons who wanted to recruit indentured labourers. Port Moresby was soon named the capital of British New Guinea.

Port Moresby subsequently became the capital of the Australian colony of Papua and has remained the capital of Papua New Guinea since independence in 1975, despite its isolation from other population centres due to the rugged terrain that surrounds the city. Because of this isolation, the Government has periodically considered relocating the capital to the next largest city of Lae, which is more centrally located.

DEMOGRAPHIC CHARACTERISTICS

According to preliminary data from the 1990 census, the population of the urban agglomeration of Port Moresby was 194,000 inhabitants, up from a mid-1970s estimate of 124,000. This increase was due to the high average annual rate of growth of the city: 15.2 per cent during 1960-1970 and 6.6 per cent in 1970-1980. Since 1980, the average annual rate of growth has declined to 4.6 per cent, twice the national average of 2.3 per cent.

The continuing rural exodus, a high rate of fertility and public health improvements which have reduced morbidity and mortality, have combined to keep population growth rate at a high level. The total fertility rate is 5 children per woman, life expectancy at birth for both sexes is 57 years, compared to a national average of 50, and infant mortality is 35 per 1,000 live births, approximately half the national average. A major area of national concern is the maternal morality rate of 800 per 100,000, one of the highest in the world.

ECONOMY

Papua New Guinea is endowed with abundant natural resources, including high-quality agricultural land, significant mineral wealth, extensive fishery and timber reserves, and great untapped hydro-electric power potential. Growth, however, is hampered by the shortage of well-educated nationals, mismanagement and the lack of well-developed infrastructure.

In the seven-year period prior to independence in 1975, the gross domestic Product (GDP) of Papua New Guinea grew at an annual rate of 8 per cent. In the late 1970s it sharply declined and has virtually stagnated in the 1980s due to falling world prices for major exports. During the past decade, agriculture has provided 35 per cent of GDP and employed some 85 per cent of the population, most of whom are involved in traditional subsistence farming. The main cash crops include coffee, cocoa and copra. Conversely, mining represented only 15 per cent of GDP and 1 per cent of total employment, but was responsible for the bulk of foreign exchange. Major exports are copper and gold. In 1989, Papua New Guinea was forced to close its largest copper mine, located on the island of Bougainville, due to a secessionist movement. This dealt a severe shock to the economy as this mine alone represented 35 per cent of all export earnings.

Due to an extremely narrow economic base, the financial future of the capital city does not hold the same promise as that of the country as a whole. Even so, the gross national product (GNP) per capita in Port Moresby, at US$2,115, is more than four times higher than the national average of US$520.

The Government of Port Moresby employs more than half of those involved in the formal economy. Although there is some industry in the capital, manufacturing employs a small percentage of the workforce of the city, primarily in the production of consumer goods. Since wages in Papua New Guinea are almost twice as those of many of their Asian neighbours, there is little prospect for the development of a significant industrial base. Much of the income of Port Moresby is dependent on the mining and agricultural activities located in other parts of the country and the city remains reliant on international development assistance.

INFRASTRUCTURE AND SOCIAL SERVICES

The growth of Port Moresby has been severely constrained by a complex system of land ownership. Approximately one third of the city land is owned through traditional landholding practices, that is, communally owned by clans and tribes, making development difficult or impossible in those areas. The remainder has been expropriated by the Government and is controlled by the State through a leasing process. The system of property adminstration is cumbersome and the availability of land is limited, thus high prices and scarcity have been significant problems.

Safe drinking water is an area of concern for the city residents; only 55 per cent, up from 30 per cent of the population a decade earlier, has access to safe drinking water. The effects of this problem may be somewhat mitigated by the fact that most household are reported to have adequate sewerage and waste collection, reducing the possibility of contaminated sources.

Health facilities are relatively plentiful and generally run by the Department of Health, although some are administered by Christian churches. The health system is based on ability to pay, with most people paying little or nothing. There is one hospital or health centre bed for every 167 population.

Port Moresby has a relatively good transportation system, including an adequate network of paved roads, an international airport and a seaport. Public transportation is mostly in the form of privately run mini-buses called public motor vehicles (PMVs), which serve most areas of the city quite efficiently. Although transportation within the city is adequate, the country as a whole lacks a satisfactory system of roads. Because the terrain surrounding Port Moresby is so rugged, the city is effectively cut off from the rest of the country, making transportation possible only by air or sea. Currently, no roads connect the city to the other major population centres. For some time there has been a plan to begin construction of a highway connecting Port Moresby with Lae, the second largest city in the country, located 75 miles to the north. The completion of this and other roads is likely to have a dramatic effect on the city, increasing both the economic activity between cities and rural areas and exacerbating the rural exodus by making the journey easier.

This rural exodus has been an enormous problem for the capital city. Urban migration to date has been dominated by young, uneducated, unskilled males, who have had a difficult time finding work upon arrival. This group has created a serious law and order problem referred to as the "rascal problem". In 1991, a curfew was instituted in an attempt to reduce the growing crime rate, but with limited success.

PRAGUE
(Czech Republic)

Prague is the capital of and the most populous city of the Czech Republic and the centre of the country's economic, political and social activities. The city's history dates back to 880, when Prague Castle was built on the Vltava River. The first university in Central Europe was established in Prague in 1348 by Charles IV. The medieval architectural heritage of the city includes palaces, churches and bridges. The modern city began to take shape in 1784 when several independent royal towns were connected to form the larger town of Prague. The area of the city grew from about 13 square kilometres in 1900 to 269 square kilometres in 1970 and to 496 in 1991.

DEMOGRAPHIC CHARACTERISTICS

The population of the urban agglomeration of Prague has increased relatively slowly, from 1 million inhabitants in 1950 to 1.2 million in 1995. More than one tenth of the population of the Czech Republic are residents of Prague. The average annual rate of population growth declined from 0.6 per cent during 1950-1960 to 0.1 per cent during 1960-1970. It rebounded slightly, to 0.9 per cent, in the 1970-1980 period, then decreased to 0.2 per cent during 1980-1995. Annexation of new territories has played an important role in the growth of the city. After the Second World War, the Government restricted migration to Prague, resulting in slow growth in the city. Prague has a low rate of natural increase, and recent population growth has depended almost exclusively on in-migration.

The current birth rate in Prague is considered low, although it is still higher than birth rates in many Western European cities. A substantial decline in fertility is envisaged after the year 2000, with a resultant decline in natural increase. About 24 per cent of the residents are elderly, many of them elderly women. The population suffered a large number of male casualties during the Second World War. The high proportion of elderly is reflected in the high crude death rate the city—14.8 per 1,000 population in 1982. Cardiovascular diseases accounted for 51 per cent of deaths in 1981.

ECONOMY

After the Second World War, state policy emphasized the restoration of pre-war levels of production, and a drive for heavy industrialization was begun. New state-planned factories were built in the older suburbs around the city core, and large-scale industry expanded into the more distant suburbs. The city has a diversified industrial structure which gives a stable character to its economy. The industrial sector includes automobile manufacturing, food processing, electronics, chemicals, printing, and textiles. The manufacturing sector is dominated by heavy industries, most notably automobile production. Since the mid 1960s, however, many industries have begun to produce consumer goods.

Central bodies of the state administration, banking, insurance, research, defence, education, culture and health care can all be found in Prague. Many industries are concentrated there; however, some of them suffer from low productivity and antiquated facilities. In 1991, the economically active population in Prague numbered about 624,000. About 30 per cent were employed in the transportation and telecommunications industries. Women constitute about half of the labour force, dominating such sectors as education and culture, trade, and health services. More than 90 per cent of women in the economically active ages are employed.

Since 1989, dramatic changes have occurred in the city's economy. The shift to a market economy has brought new opportunities for privatization. New firms have been established with foreign participation, and trading activities have been promoted. New jobs also have been created, and the city's economic profile has been altered considerably.

The city grapples with serious chronic budgetary constraints. Expenditures on administration, housing, infrastructure and so forth have been severely curtailed. Despite ongoing economic reforms, unemployment in Prague is very low (.3 per cent), compared with the Czech Republic as a whole (2.6 per cent). Job vacancies in Prague exceed the number of applicants. The city has a very low level of poverty and an absence of poor districts or ghettos.

INFRASTRUCTURE AND SOCIAL SERVICES

Prague suffered relatively little damage during the Second World War, so the city was spared the necessity of large-scale post-war reconstruction. One of Prague's main problems is the shortage of housing. Many dwellings are old and in poor condition. During the 1960s, the Government began to construct apartment buildings in the suburbs. Despite these efforts, housing is still a serious problem, and most of the city's residents live in crowded apartments. Average household size is 2.5 persons per dwelling, even though one third of the households consist of single persons.

Residential density in Prague is extremely uneven: almost 50 per cent of the population lives inside a 10-square-kilometre area within the central city. New settlements have been constructed on the city's outskirts to relieve overcrowding in the city core and to allow the rebuilding of houses dating back to the nineteenth century. In 1991, Prague had over 78,000 permanently inhabited houses and more than 495,000 permanently inhabited flats. The country's economic reforms have affected the housing stock: as houses are returned to private hands, owners are making investments in the restoration and improvement of their homes.

Unlike some other cities of Western Europe, Prague is not congested with private automobiles. The major means of transportation are buses, trams, and the metro. In 1969 the revised plan for Prague gave pedestrians priority over vehicular traffic in the historic city centre. A new 85-kilometre underground railway system is being built; when finished, its 100 stations will link the central city to the suburbs by surface electric rail. Parts of the metro have been operating since 1974, and three lines are currently in use. Additional measures to decentralize the centre city include the relocation of some industries and the construction of satellite cities at a distance of 15-20 kilometres from the centre of Prague.

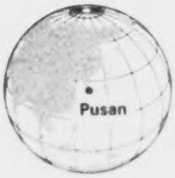
Air pollution is one of the most serious environmental problems in the Czech Republic. A significant share of the pollution originates in neighbouring countries, especially Germany and Poland. In Prague, vehicle emissions are responsible for about 10 per cent of air pollution.

The transformation of the Czech Republic to a market system has promoted trade, augmented services and increased tourism. Foreign investment has created jobs and contributed to a boom in Prague's economy. However, much of the city's infrastructure needs to be modernized if the city is to continue providing an adequate water supply, treating waste water in sewage treatment facilities, disposing of solid waste, and improving the environment.

PLANNING ISSUES

At the end of the 1950s, the Government began a policy of limiting Prague's population growth. This policy lasted through part of the 1970s. Access to Prague by migrants was limited by regulating employment: only those with jobs in Prague were permitted to move there. This policy caused a decline in housing construction and directed investments elsewhere. The policy was reversed in the early 1970s, when a spatial restructuring of socio-economic activities began. As a result, Prague received large investments, which initiated a period of modernization. A number of pronatalist measures were taken in the early 1970s, and births exceeded deaths in the city from 1973 to 1979. By the end of 1970s, however, the birth rate had declined. The city was also unable to attract sufficient labour. Among the reasons for the shortage of in-migrants were obsolete workplaces, lack of housing, and the increasing importance to residents of an attractive environment. Since the early 1980s, the Government has had an active locational policy aimed at limiting the growth of Prague and other large cities.

PUSAN
(Republic of Korea)



Opening in 1887, the port of Pusan is located in the south-eastern part of the Korean Peninsula. During the Korean War (1950-1953), the port of Incheon was destroyed and the city of Pusan gained importance, with most of the shipping of the country being diverted to Pusan. Subsequent growth in the Pusan region has been a result of the Government's industrialization policy. Several large-scale industrial estates were located in the Pusan region with support from the central Government because the region contained three good harbours on a coastal strip and access to abundant water from the Nakdong River. Pusan has experienced three periods of boundary expansion (after 1960, 1975 and 1985). However, these expansions have not significantly contributed to population growth.

DEMOGRAPHIC CHARACTERISTICS

In 1925, Pusan had a population of 107,000 which increased to 471,000 in 1949. During the Korean War, due to the importance of the port during the war and the inflow of refugees, Pusan experienced very rapid population growth. Within two years (1949-1951) the population almost doubled, from 471,000 to 844,000. After the war, immigration continued, leading to further population increases. In 1955, the population of Pusan was over 1 million, growing steadily to 4.1 million in 1995. The annual rate of population growth was relatively slow in the 1950s, at 2 per cent, increasing to 3.4 per cent during 1960-1965, and then to 5.5 per cent during 1965-1980. In the 1980s, the average annual rate of growth declined to 1.6 per cent and remained at this level during 1990-1995.

Most of the population growth in Pusan was attributable to migration from other regions. Pusan experienced net in-migration until 1989 when out-migration predominated. Prior to 1980, net migration was the dominant source of population growth in Pusan; after 1980, natural increase became the main source of population growth, accompanied by declining in-migration. The rapid development of other regions in Korea has made Pusan less attractive to potential migrants. Pusan has experienced a net outflow of migrants to the Seoul metropolitan area, even though it has experienced net in-migration from other regions. Most out-migrants are highly educated or well trained, hence, out-migration has in effect constituted a brain drain.

ECONOMY

The economic development plan of Korea in the early 1960s led Pusan to become the busiest and most important port in the country for international trade. The first development plan was designed to assist export industries and Pusan was ideally suited for that purpose. Because of capital and technology limitations, industrialization was based on labour intensive sectors such as wood products and shoe manufacturing. Major export commodities include footwear, apparel and rubber products.

Pusan was selected as a site for manufacturing industries because of its locational advantage and its function as a major port. About one third of regional income in Pusan has been related directly or indirectly to the port. Because of rising inefficiency and higher costs, the relative influence of the port has been slowly declining in the Korean economy. The port has been expanded twice and a third expansion project is currently in progress.

INFRASTRUCTURE AND SOCIAL SERVICES

Owing to rapid expansion, Pusan suffers from inadequate urban infrastructure. Pusan handles about 95 per cent of all the containerized cargo in Korea, and this factor aggravates urban traffic problems. The number of cars also have increased dramatically over the past decade, from 62,419 vehicles in 1980 to 234,936 in 1989. The ratio of roads to total surface area increased from 1.8 per cent in 1963 to 12.8 per cent in 1990. To address its traffic problem, the city has been focusing on five potential solutions: *(a)* the expansion of basic transportation facilities, including construction of new urban highways and beltways; *(b)* expansion and extension of the existing road network; *(c)* construction of more subways; *(d)* construction of parking spaces; and *(e)* maximizing operational efficiency of the transportation system.

Another serious problem is the shortage of land for industries and housing (usable land area in Pusan is very small, as it is flanked by mountains to the north and the Pacific to the south, with 37 per cent of the city area designated as a green belt). There is concern that this shortage could result in a loss of industrial firms to other cities and a reduction in the tax base of the city. In response, the city has been developing industrial complexes and plans to build some 400,000 housing units by the year 2000. Reclaiming land from the ocean and nearby rivers would be the major source of land for these projects.

Regarding the supply of drinking water, the major problems include quality, supply to high altitudes and increased demand. A substantial portion of untreated water flows into the river. The municipal sewerage system covers about 44.2 per cent of city area. Solid waste is another source of environmental pollution in Pusan. Industrial waste causes more serious problems than residential garbage. In response, the city plans to reduce the quantity of residential garbage (using compacting machines), expand the current dump site, construct garbage incinerators and establish small-scale burning facilities and dump sites.

PLANNING ISSUES

Government industrial policy has played an important role in the growth of Pusan. Another motive underlying the Government's support for the growth of the Pusan region was its location far away from Seoul, almost at the opposite end of the country, thus serving as a potential counter-magnet to what the Government perceived as the overly rapid growth of Seoul. The rapid growth of Pusan between 1965 and 1985 consequently represents one of the rare instances where a national government deliberately supported the rapid expansion of an already large city, although in recent years there has been an increasing emphasis on the promotion of regional centres other than Seoul and Pusan, with the objective of obtaining a more balanced pattern of regional development.

QUITO
(Ecuador)

Quito, the capital of Ecuador, lies on the lower slopes of the Pichincha, a volcano which last erupted in 1666, in a narrow Andean valley at an altitude of 2,850 metres, just south of the equator. Once the seat of the Kingdom of Quitu, the largest unit of an Indian tribal confederation which subsequently became part of the Inca Empire, Quito was founded by the Spaniards in 1534 and was named the Villa of San Francisco de Quito. The city remained the focal point of the political, economic and social affairs of Ecuador until the early twentieth century, when economic dominance shifted to Guayaquil. Quito, the oldest South American capital, remains the political and cultural centre of the country.

DEMOGRAPHIC CHARACTERISTICS

The population of Quito grew from 206,000 in 1950 to 501,000 in 1970 and to 796,000 in 1980. According to the 1990 census, its population was 1.1 million, and that of the Canton of Quito, was slightly larger, at 1.4 million. The average annual rate of population growth, which was 5.9 per cent during 1985-1990, is expected to decline to 2.2 per cent by 2005-2010.

United Nations 1994 estimates placed the population of the Quito urban agglomeration at 1.2 million, which is projected to reach 1.8 million by the year 2010. Approximately 11 per cent of the total population of Ecuador resided in the agglomeration as of 1994.

ECONOMY

The economy of Quito was greatly transformed by the discovery of oil fields in the early 1970s. Prior to the 1970s, the economy of the city, as that of Ecuador as a whole, was based on agriculture, and the country was one of the least developed in Latin America. The discovery of oil led to rapid industrial development, particularly in Quito. By the end of the 1970s, industrial production shifted towards export goods.

The development of the city was slowed by the economic crisis of 1982 and was nearly arrested by the earthquake that destroyed the trans-Andean oil pipeline in 1987. The economic crisis and the decline in oil exports particulary affected the middle- and low-income population, which have often resorted to informal employment, competing with increasing flows of migrants from rural areas. An official survey conducted in 1987 found that as much as 43 per cent of the economically active population in the urban areas of Ecuador was employed in the informal sector.

INFRASTRUCTURE AND SOCIAL SERVICES

As the oldest capital in South America, Quito has preserved much of its colonial atmosphere, with church towers, fountains, steep narrow streets, houses with balconies, iron-grilled doorways and secluded gardens. The establishment by the Franciscans in 1535 of the first art school of its kind in South America marked the beginning of a religious art movement in Quito which left a legacy of sculptures and paintings unequalled in the New World. Indeed, many of the city churches, cloisters and old mansions are veritable museums. It has been estimated that religious buildings occupy 25 per cent of the city territory.

The Municipality of Quito oversees urban planning, land use, street planning, building permits and the construction of public roads within its territory. It is also responsible for water supply, sanitation and sewerage in the area, as well as food markets, parks and recreational facilities. The Municipality shares with the central Government the task of providing electricity to homes and industries. Education, health, housing, urban transportation, child care and care of the elderly is the sole responsibility of the central Government, with the Municipality administering complementary programmes. The Municipality is currently studying the feasibility of privatization of municipal food markets, the sanitation system, the operation of slaughter houses, as well as private-sector participation in the new trolley bus transportation project.

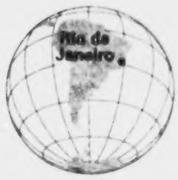
The Municipality of Quito runs three health centres serving the low-income population. The Division of Hygiene and the Ministry of Health are both responsible for quality control of food served in public establishments and of lodging facilities, and for general health-care activities. The Municipality is also responsible for a successful drinking water programme which resulted in a sizeable expansion of service. A project is currently under way to provide drinking water to all individual homes; new contracts aim at water purification and the harnessing of water power. The goal is to attain 95 per cent coverage of the population within the next three years, and coverage for the entire population by the year 2005. The tariffs imposed by the Municipal Water Company have recently begun to reflect real costs and water metres are being installed in every home. However, systems losses remain high. The sewage system, which collects no revenues, is financed by the Municipality of Quito. Although service has improved in the past five years, it nevertheless continues to be inadequate. Plans call for the merger of the water and sewage companies in the near future. A Solid Waste Master Plan proposes the use of transfer stations, the acquisition of new equipment, and the use of trucks to transport waste from the transfer stations to disposal sites outside the city limits. The plan will be financed by a sewage collection fee to be added to the charges for electricity. There are also plans to decentralize the sanitation department to enhance service provision. The responsibility of controlling air and water pollution is shared by the Municipality of Quito and the central Government.

Two large housing projects are currently under way in Quito: the Turubamba de Monjas project which will add 1,000 low-income homes, and the Quitumbe project which will add 14,000 dwellings in a 270-hectare area within the city limits. Bidding for housing is conducted through organized groups.

The Municipality of Quito sponsors cultural and recreational activities for children, and supports health and day-care centres in low-income neighbourhoods. The Municipality is collaborating with the San José Foundation to construct a home for the aged which would house 280 persons. The elderly use the municipal transportation system of Quito free of charge.

The Municipality of Quito conducts approximately 750 community development projects per annum, including the paving of streets, the channelling of rain water, the construction of sidewalks, the establishment of food markets and communal laundries and the improvement of water and septic systems. The Municipality is also responsible for the renovation and conservation of the historic downtown section of the city, an area valued for its monuments and artifacts, which has been designated by the United Nations Educational, Scientific and Cultural Organization (UNESCO) as a "Cultural patrimony of mankind". A special tax levied on the citizens of Quito helps defray the cost of maintaining this part of the city. The Municipality sponsors programmes, albeit with limited resources, to alleviate inner city problems.

RIO DE JANEIRO
(Brazil)



The site of present-day Rio de Janeiro was first identified by Portuguese explorers in January 1502. Finding what they believed to be the mouth of a giant river, they named the area River of January. A permanent settlement was established in 1536. In 1763, Rio de Janeiro displaced Salvador da Bahia as the colonial capital of Brazil and, for the next two centuries, the city went unchallenged as the hegemonic urban centre of Brazil. Following independence of Brazil from Portugal in 1822, Rio de Janeiro became the capital city of the independent empire of Brazil. The removal of the trade restrictions that had been imposed by Portugal helped to usher in a golden age for the city, as it became the leading industrial, commercial and cultural centre of the country.

The end of the independent imperial period of government in Brazil, when the republic was established in 1889, was the first blow to the supremacy of Rio de Janeiro, even though it continued to be the national capital. The growing influence of other areas in Brazil (e.g., São Paulo, Belo Horizonte, Porto Alegre) revived the old political aspiration to build a new national capital in the undeveloped interior of Brazil. The construction of the new capital of Brasilia after 1960 was an explicit statement that the political supremacy of Rio de Janeiro had run its course. As compensation for its loss, Rio de Janeiro was awarded the privileged status of city state (it was designated the state of Guanabara), which guaranteed greater local revenues and greater authority for its officials than for those in other Brazilian cities. The new arrangement was an administrative anachronism, however, since the jurisdiction of the state of Guanabara did not even cover the entire urbanized area of the metropolitan region. In 1975, in what was termed "the fusion", the city state of Guanabara ceased to exist and was merged with the surrounding state of Rio de Janeiro.

DEMOGRAPHIC CHARACTERISTICS

Currently, the second largest city in Brazil and the fourth largest in Latin America (after Mexico City, São Paulo and Buenos Aires), Rio de Janeiro has experienced steadily declining population growth over the past several decades and is currently the most slowly growing mega-city in the developing world. When it became capital of Brazil in 1763, Rio de Janeiro was already the largest city in the country, with a population of some 50,000. A century later, when the first modern census was conducted in Brazil in 1872, Rio had a population of 274,972. Thereafter, the city experienced explosive population growth. By 1906, Rio de Janeiro was the largest city in Latin America, with a population of 811,444--larger than Buenos Aires and Mexico City, and four times larger than São Paulo, which was then the second largest city in Brazil.

Between 1900 and 1940, the population of Rio de Janeiro increased by 2.4 per cent per annum, reaching 1.8 million in 1940. The population of the city grew by an average annual rate of 3.0 per cent during 1940-1950, reaching 2.4 million in 1950, and by 3.2 per cent during 1950-1960, its period of most rapid urbanization, reaching 3.3 million in 1960. Whereas the population size of Rio de Janeiro was close to that of São Paulo's in 1960, São Paulo soared ahead thereafter. The city of Rio de Janeiro grew from 3.3 million in 1960 to 4.3 million in 1970, to 5.1 million in 1980 and to 5.5 million in 1991. Over the same period, the city of São Paulo grew from 3.7 million to 9.5 million. The Rio de Janeiro metropolitan region (RJMR) grew from 4.8 million in 1960 to 6.9 million in 1970, to 8.7 million in 1980 and to 9.8 million in 1991. In contrast, Greater São Paulo grew from the same starting point of 4.8 million to 15.2 million. In other words, whereas São Paulo more than tripled in size between 1960 and 1991, Rio de Janeiro did not even double over the same period.

RIO DE JANEIRO

Average life expectancy in Rio de Janeiro state increased by 18 years between 1940 and 1980. Life expectancy at birth was 66.2 years in the city and 63.2 years in RJMR. With a crude death rate for the state as a whole of 8 per 1,000 population in 1985, causes of death are more similar to those in developed countries. The leading cause of death was cardiovascular diseases, followed by "external causes", neoplasms, respiratory ailments, and violence and criminality. Infant mortality has undergone a substantial decline, with the rate for the metropolitan region declining from 75.3 to 36 per 1,000 live births between 1980 and 1987; mortality of children under 5 declined from 55.8 to 39.9 per 1,000. Whereas there has been an improvement in mortality due to such causes as poor sanitation, this has been offset by mortality due to violent causes. Since the 1960s, the leading cause of death among persons under 50 in the state of Rio de Janeiro has been "external causes", with the number of homicides exceeding deaths from transportation accidents.

Fertility in Brazil as a whole was very high up to the beginning of the 1960s. Thereafter, there was a declining trend, especially in the more advanced areas of the country. RJMR has one of the lowest fertility levels in Brazil. As of 1980, the total fertility rate for the metropolitan region as a whole was 2.8 children per woman. As a result of the decline in fertility, there have been changes in the age structure in Rio de Janeiro. Children under age 15 in RJMR have shown a declining share (from 29.6 per cent of the total population in 1980 to 28.1 per cent in 1988). The proportion of the population aged 65 or over increased from 5.2 to 5.5 per cent over the same period.

ECONOMY

Even though the growth of competing metropolitan regions has eroded its leading edge, industry in Rio de Janeiro has continued to grow. Its industrial sector is reasonably well diversified, ranging from capital-intensive to labour-intensive and including long-established sectors, such as the clothing industry and more dynamic areas such as pharmaceuticals. The most important class of industry in Rio de Janeiro is manufacturing, which was responsible for 48 per cent of industrial revenues in 1987. The clothing industry in Rio de Janeiro in both the formal and informal sectors is the largest in Brazil. The food industry also plays an important role in the local economy. The mechanical industry manufactures parts and accessories for vehicles and machinery, as well as industrial equipment and devices for hydraulic installations, whereas the chemical industry produces goods for final consumption such as cleaning materials, dyes and paints. Another industry that makes a large contribution to value added is electrical materials, including household appliances and electric tools for industry and commerce. The metallurgical industry ranks third in terms of value added; a large number of small establishments produce a wide variety of goods that are channelled largely to local manufacturing and construction enterprises. The pharmaceuticals industry is also important and is made up of local and foreign laboratories, mostly large and medium-sized. In regard to other industries, civil construction and shipbuilding both have a long tradition in Rio de Janeiro.

In addition to direct production, many of the large state and private-sector enterprises and multinational corporations in Brazil have their principal offices in Rio de Janeiro. The National Social and Economic Development Bank (BNDES), the main financial agency in Brazil supplying long-term credits, has its headquarters in Rio de Janeiro. The city also houses the second stock exchange in the country.

INFRASTRUCTURE AND SOCIAL SERVICES

For many years, Rio de Janeiro has had a dual housing market, one formal and one informal. Because of inadequate housing policies, highly skewed income distribution, spiralling inflation, loss of purchasing power, and the rising price of urban land, a large part of the population of Rio de Janeiro does not have access to the formal housing market. As a result, favelas and illegal subdivisions have constituted the bulk (90 per cent) of low-income housing production over the past decade. As of 1991, favelas in the city of Rio de Janeiro housed 961,175 inhabitants, while 508 low-income housing complexes housed another 944,200.

Favelas in Rio de Janeiro have a long history, dating back from the turn of the nineteenth century. The first major wave of rural-urban migration in the early 1930s led to rapid growth in the favela population. Subsequently, the spread of favelas to the periphery and to the richer South Zone led the authorities to consider favelas to be a major urban problem from the 1940s onwards. The favelas in Rio de Janeiro continued to expand during the 1950s and 1960s, particularly to the working-class suburbs, where the authorities did not enforce the zoning laws so strictly. Starting in the 1960s and throughout the 1970s, favela growth entered a phase of decline. Whereas the total population in favelas still grew twice as rapidly as the total population during 1960-1970, in the following 10 years, for the first time, the favela population grew more slowly than the total population. Such abrupt change had at least three underlying processes. First, the resettlement policy put forward within the municipality as of 1962 and running until the early 1980s certainly had an impact on numbers. Another possible explanation had to do with the fall in migratory flows to Rio; indeed, according to census data, the percentage of migrants in the city of Rio declined from 48.5 per cent in 1950 to 42.0 per cent in 1970 and to 35.2 per cent in 1980. Finally, the 1970s were a decade of strong "peripherization" in which the poor became more and more concentrated in the outward rings of the metropolis.

In preparation for the new Master Plan, technicians at IPLAN-RIO conducted a survey of the Rio de Janeiro favelas by means of aerial photography. The surprising findings indicated that, between 1981 and 1991, 85 new favelas appeared, just when the process seemed to have come to a halt. Moreover, IPLAN found that 69 of the existing favelas had expanded, 198 had densified and 167 had both expanded and densified. Despite this trend, planners have concluded that favela development in Rio de Janeiro does not have the same strong link with migration as it had in the past when Rio was a rapidly growing metropolis. Its recent growth and expansion seems to be more associated with the natural growth of the population as well as with intra-metropolitan flows and residential mobility. Moreover, similar to the case of São Paulo, favelas seem to be growing more by a process of downward mobility.

The main source of water in Rio de Janeiro is the Paraiba river. Although the bulk water supply is fairly polluted from industrial effluent, following treatment, water quality complies with standards of acceptability established by the World Health Organization (WHO). Overall, 77 per cent of the population of RJMR has access to piped water (93 per cent of the population in the city of Rio de Janeiro and less than 55 per cent in the Fluminense lowlands, where some 1 million residents are without proper water supply). Because of inadequate maintenance of the ageing water mains in the city, unaccounted-for-water (i.e., the difference between the amount of water delivered into the system and the amount paid for by consumers) in Rio is as high as 40-50 per cent.

Regarding sanitation, in the metropolitan region as a whole, about 60 per cent of the population are served by the piped sewerage network. However, there are major differences in accessibility between the central city and the periphery. The city of Rio de Janeiro has three sewage treatment stations, at Icari, Leblon and Penha; even when operating at full capacity, they can handle only 30 per cent of the volume of sewage produced by the metropolitan region. Due to these factors, large volumes of untreated sewage flow into the waters of the Guanabara and Sepetiba bays, as well as into the rivers, canals and the Atlantic Ocean, with serious environmental consequences for marine ecosystems.

Drainage in Rio is a serious problem. The spread of large impermeable areas once covered by vegetation, and the filling in of lagoons and rivers to build roads, has resulted in serious periodic flooding. The situation has been exacerbated by the fact that many of the storm water collectors in the city were constructed in the early nineteenth century and are therefore old and badly in need of cleaning and repair. Moreover, their capacity has been reduced considerably by siltation and by being clogged by garbage. The existence of more than 400 favelas and 900 irregular subdivisions, which are mainly without drainage and sanitation systems, has compounded the flooding problems of the city.

The city of Rio de Janeiro currently produces about 6,000 tons of solid waste per day, 2,000 tons of which come from public areas. In the metropolitan region as a whole, about 70 per cent of solid waste is collected; however, only 45-50 per cent of waste is collected in the Fluminense lowlands, compared to 90 per cent in the city of Rio de Janeiro. Considerable amounts of solid waste are thrown into the canals and rivers, causing flooding and diseases. Solid waste in the city of Rio de Janeiro is handled by COMLURB, a municipal cleaning company that collects, treats and recycles solid waste. Until recent years, much (about 70 per cent) of the solid waste in Rio de Janeiro went to one of three sanitary landfills, which were close to saturation and caused considerable environmental degradation. With the construction of the Caju garbage treatment plant—the largest recycling and composting facility in Latin America—1,120 tons of garbage/solid waste are processed daily.

The land area of the city has undergone considerable environmental degradation over the past several decades, leading to erosion, flooding and periodic landslides. Since the colonial period, 40 per cent of the total forested area (an area of 9,624 hectares as of 1992) has been destroyed, mainly for firewood and to clear land for agriculture. Deforestation has continued steadily (at a rate of about 4 square metres per day), as a result of many factors, including the burning of native colonial/African grass in periods of drought, hillside cultivation and grazing, opening up cuts to explore for minerals, installation of high-tension wires, construction of high-rise buildings and encroachment of favelas.

Regarding air pollution, the local climate, the proximity of the ocean and the complex topography of the city often result in unfavourable pollutant dispersion conditions, i.e., strong temperature inversions, high frequency of calms and specific poorly ventilated local areas (WHO). The area also has ideal conditions for photochemical reactions. In addition,the rapid and unplanned expansion of the urbanized and industrialized areas with uncontrolled mixtures of multiple pollutant sources, has led to a city with a unique airshed.

Whereas the Macau river is of good quality, the other rivers and canals that drain practically the entire metropolitan area are in critical condition, polluted by domestic waste and industrial effluent, including heavy metals and other toxic waste. High levels of oxygen and nutrients, mainly from household waste, are responsible for eutrophication of many of the major bodies of water.

Currently, public transportation systems in Rio de Janeiro are among the most diversified in Brazil and include an extensive suburban railroad network, a complex road system, a water transportation system and a metro. As a result of the lack of an efficient system of mass transit and decades in which public investment strongly favoured the construction of roads and highways, the share of road vehicles has continued to climb in Rio, with buses accounting for 66 per cent of daily passenger trips, private automobiles for 15 per cent and taxis for 2 per cent. The decision to construct a metro was not made until 1968, and the first section did not go into operation until 1979, more than a decade later. Unfortunately, the metro system is incomplete and cannot achieve economies of scale in its present limited form. Moreover, heavy financial subsidies are required for its operation.

The railroad system has deteriorated considerably, however, and to date carries only 7 per cent of the total number of daily passengers.

As a result of the decline in ridership in the various high-capacity transport modes, the gap has been filled by public buses. The bus fleet in the city is responsible for carrying 66 per cent of daily passengers in the metropolitan region, or some 8 million passengers daily. The bus system in the city alone is responsible for 4.5 million trips daily. With 34 companies operating some 6,000 buses on 412 bus lines, Rio de Janeiro has one of the largest urban bus services in the world.

PLANNING ISSUES

In 1927, the Rotary Club of Rio de Janeiro engaged the services of a group of French technicians, headed by Alfred Agache, to prepare a city plan that was, in effect, the first formal attempt at comprehensive urban planning. The Agache Plan (1927-1929) essentially sought to give Rio the monumental scale and form commensurate with its status as the national capital. In keeping with its elitist spirit, the plan proposed expanding and beautifying the city centre, eradicating the favelas and segregating the low-income residential population as well as locating industry in the distant fluminense lowlands.

The period 1930-1965 was characterized by a lack of coordination in the treatment of urban problems and by an abundance of directives and disconnected sectoral actions. It was not until more than a quarter of a century later, in 1963, that attention turned back to comprehensive urban planning. With the transfer of the national capital to Brasilia in 1960, the Executive Commission for Urban Development of the newly created State of Guanabara contracted the services of the well-known Greek urban planner, Doxiades, to prepare an urban plan. The resultant plan, Guanabara: a Plan for Urban Development, which presented a planning framework up to the year 2000, was essentially a list of possible urban policies and long-term intentions rather than a formal master plan. The plan cautioned against adopting a uniform policy for the favelas, noting that some favelas should be moved to areas offering greater possibilities for employment, others could be rebuilt near the existing sites, whereas others could undergo a process of "urbanization" in situ. *Moreover, the Doxiades plan for the first time* supported the idea of industrial development in Rio de Janeiro, mainly in the its western zone. Although the detailed diagnosis in the plan of the city problems remains as valid to date as it was in the 1960s, the Doxiades Plan was never implemented because of lack of resources, absence of an explicit legal framework and, once again, administrative discontinuity.

In the aftermath of the Doxiades Plan, urban planning in Rio consisted largely of piecemeal efforts related to feasibility studies for major projects such as the Rio metro and the Rio-Niteroi bridge. During the mid-1970s, a number of key zoning laws were introduced, followed by PUB-RIO (1977), the third global plan of the city and the first to be prepared by Brazilian planners. Rather than a traditional master plan, PUB-RIO contained a highly detailed analysis of various sectoral problems of the city, down to the neighbourhood level. Although aspects of PUB-RIO were carried over into subsequent planning exercises, it essentially suffered the fate of its predecessors because of lack of financing. In regard to planning for the metropolitan region as a whole, metropolitan planning had a late start in Rio de Janeiro, since Rio was the last metropolitan region to be established, following the fusion of the state of Rio de Janeiro and the former state of Guanabara in 1975. The first development plan was prepared by FUNDREM, the short-lived planning agency for the metropolitan region in 1983. Although endorsed by the metropolitan municipalities, the plan, which was intended to provide guidance for sectoral investment by the state, fell into disuse with the decline of metropolitan planning in Brazil.

RIYADH
(Saudi Arabia)

Riyadh, the capital of and the largest city in Saudi Arabia, is a landlocked city located among oases on a dry, rocky plateau near the centre of the country. It was founded in 1824 but developed slowly, from an area of about 0.75 square kilometres at the turn of the century, to 8.5 square kilometres by the 1950s. By 1986, the city boundaries encompassed 1,600 square kilometres, with a built-up area of 620 square kilometres.

DEMOGRAPHIC CHARACTERISTICS

The population of the urban agglomeration of Riyadh grew from 111,000 in 1950 to an estimated 2.6 million in 1995. The annual rate of population growth averaged 11.3 per cent between 1965 and 1975, then declined to 6.9 per cent during 1975-1990, to 5.3 per cent during 1990-1995. The population is expected to increase to 4.5 million by the year 2010. Both internal and international migration have contributed to the growth of the city. In 1986, the central city had a density of 938 per square kilometre.

ECONOMY

Riyadh is the main headquarters of the oil industry in Saudi Arabia. In 1983, the city had an employed population of 680,000. The service sector was responsible for majority of employment (56.6 per cent), followed by construction and public works (28.7 per cent) and mining and industries (14.3 per cent). Owing to a comprehensive state welfare system established in the 1960s and 1970s, there is virtually no poverty in Riyadh. Rapid economic development in Riyadh has permitted rapid city growth without the large concentration of poverty that has accompanied rapid urban growth in many other developing countries.

INFRASTRUCTURE AND SOCIAL SERVICES

With the objective of providing a decent standard of living for all its citizens, Riyadh has been the recipient of high levels of investment in urban infrastructure. All Saudi citizens have been entitled to generous grants and loans for home purchases, one consequence of which has been a housing boom in Riyadh. Given the widespread preference for single-family dwellings and the universal ability to purchase automobiles, the surface area in Riyadh has expanded rapidly to accommodate new housing. Several large residential compounds have been constructed by various ministries in different locations. Some residential districts, which were considered small cities or suburbs (such as Urayja and Laban, each comprised of 36,000 residential plots), are incorporated within the municipality.

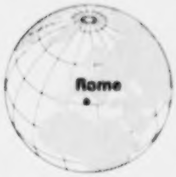
One of the principal physical difficulties facing development in Saudi Arabia is expanding the water supply. Riyadh is fortunate in this respect, as it is located above large reserves of groundwater contained in sedimentary layers. The daily production of domestic drinking water increased from 126,000 cubic metres per day in 1976 to 700,000 cubic metres in 1986, relying partly on desalinated water from the Gulf. Domestic consumption of electricity increased from 1,832 gigawatt hours (Gwh) in 1980 to 4,926 in 1985.

The period 1976-1986 witnessed many improvements in living conditions in Riyadh. In-house sewerage connections increased from 32,800 to 126,000, with large quantities of waste water being treated and used to irrigate green areas. Over the same period, hospital capacity increased from 1,700 to 8,595 beds. The number of schools increased from 345 to 1,088; the number of students attending school rose from 140,000 to 350,000, while the number of university students increased from 12,500 to 37,000.

Along with these changes, there have been substantial increases in transport capacity. Between 1980 and 1985, the number of passenger cars increased from 655,000 to 1,297,000, while the number of buses increased from 165 to 239. By the mid-1980s, over a 10-year period, 86 million square kilometres of asphalt roads, almost all with sidewalks and lighting, had been completed.

Rapid population growth and expansion of services greatly increased the workload of the municipal government. As development projects became more complex and budget allocations rose, Riyadh moved in 1977 to a more decentralized system of government. The city was divided into 10 districts, each with a branch government responsible for local services. The main municipal government provides manpower, material and organizational support. The system has worked so well that it has been replicated in other cities of Saudi Arabia and within the Arab region.

ROME
(Italy)



Rome, the capital of Italy, is one of the oldest cities in ope as well as one of the chief centres of European culture. With the enclave of the Vatican City within its territory, Rome is also the centre of Catholicism. The city was founded during the eighth century B.C. on an important trade route between the Etruscans to the north and Greek colonies to the south. By the second century A.D., Rome had become the centre of an empire which embraced 100 million people at its peak. At the height of imperial rule, nearly 2 million people lived within the 19 kilometre-long Aurelian Wall constructed in A.D. 270. The decline of the empire, barbarian sacks, invasions, earthquakes and the use of old edifices as quarries, reduced Rome to a small provincial town with a population of 20,000 in the Middle Ages. With the return of the Papacy in 1347, population size began to increase once again, with Rome becoming the magnificent religious capital of the Renaissance. The city was chosen as the capital after the unification of Italy in 1870. Rome is the political, administrative and cultural centre of Italy.

DEMOGRAPHIC CHARACTERISTICS

The major growth of Rome took place during the century following unification, when the city became capital of Italy. From a population of 213,633 in 1871, living on the 1,420-hectare territory enclosed by the Aurelian Walls, the population of Rome increased to 2.9 million in 1970, living inside the borders of the 1,507 hectares of the municipality. The municipality of Rome is the largest in Italy and includes large areas of agricultural land. The resident population in the municipality of Rome increased by 85.6 per cent between 1950 and 1970. Between 1970 and 1980 its population increased by only 3.8 per cent, from 2.9 million to 3.0 million. Since 1980, the city has been experiencing negative rates of population growth and by 1995 the population declined to 2.9 million. Surrounding municipalities, however, maintained high rates of growth, principally due to migration flows from Rome, which are just now beginning to decline.

The demographic evolution of Rome is characterized by a significant decrease in fertility which led to an average annual rate of natural increase of 0.4 per cent for the municipality of Rome and a rate of 1.3 for the entire province of Rome for the period 1981-1986. Migration flows are principally responsible for population growth; it is estimated that 78.5 per cent of the total increase in the population of Rome between 1871 and 1971 was due to in-migration. Between 1951 and 1971, the capital continued to attract population, especially from neighbouring municipalities and from the southern part of the country. Net migration rates for the municipality of Rome remained positive until 1971, when the average annual rate decreased from 12 per 1,000 in 1961-1971, to -3.2 per 1,000 for the period 1971-1981, and continued the negative trend (2.1) in 1981-1986. Other municipalities within the province of Rome experienced a reverse trend of very low average annual net migration rates for the period 1951-1971, followed by an increase in the rates, 11 per 1,000 and 13.4 per 1,000 for the periods 1971-1981 and 1981-1986, respectively. After 1971, the previous trend based on massive in-migration and rapid growth of the central city was reversed, with an increase in residential out-migration towards the hinterland. However, most city residents who fled the congestion and deterioration of the inner city in search of better living conditions in the suburbs did not completely sever their ties with Rome, but commuted to their jobs and took advantage of the cultural and social opportunities offered by the city.

ECONOMY

The economy of Rome is characterized by the absence of heavy industry, a restricted presence of light and medium industry, and by a well-developed tertiary sector. After 1951, the tertiary sector has greatly expanded, especially in the area of commercial activities, banking, transportation and services, due in large part to the development of the tourist trade which is extremely important to the economy of the city. Universities, national radio and television, and the movie industry in Rome are also important to its economy. A phenomenon peculiar to the city is the widespread incidence of double employment.

INFRASTRUCTURE AND SOCIAL SERVICES

The growth of Rome follows a pattern of spilling over into the countryside, with areas of intensive urbanization surrounding areas of low-density settlement. Most of the development, especially within the municipality of Rome, has been due to illegal settlements built on agricultural land or cheap land outside the urban area, completely lacking in public services. The Government's response was to gut entire areas, evict residents and re-house them far from the city (the Borgate) in isolated settlements lacking social or cultural services. During the period of expansion after the Second World War, residential complexes were built by the public sector, but these, too, were not functionally autonomous. Private building took over on the outer fringes of the city, providing homes which ranged from shacks to grand buildings, and which turned the outskirts of the city into a vast illegal agglomeration, often without drains, gas, roads and other facilities. The excessive growth of the city without any attempts at urban planning resulted in failure to ensure adequate infrastructure. Although an arduous process of service provision and slum clearance has long been under way, the results are still far from satisfactory.

Presently, there is a ring of municipalities surrounding Rome which are closely linked to the city and which serve as residential areas for commuters. Due to the centripetal structure and annular growth that has shaped the urban agglomeration of Rome, the city centre, with its unsuitable transportation system, bears the burden of expansion. In reality, the city infrastructure supports a much larger population than that reported in the official census, including ecclesiastics, students, service workers and other workers (many of whom reside in the city and use its services, but do not change their official place of residence), in addition to the significant number of illegal immigrants (whose increasing numbers have become a particularly acute problem in recent years). Besides the federal, regional and municipal administrative and bureaucratic offices, the diplomatic missions to the Italian State and to the Holy See, and the Vatican ecclesiastic administration, the city centre houses 75 per cent of all social and cultural institutions in the metropolitan area and many tertiary activities. As a result, Rome is experiencing severe pressures on its already inadequate infrastructure.

Traffic congestion and air pollution are only two of the problems of the city. The rise in vehicular traffic had already been considered an acute problem in 1950. In 1988, there were 1,759,996 registered motor vehicles (of which 1,531,434 were passenger cars), excluding non-resident cars. The development of suburban districts and the phenomenon of residential migration served to increase cross-city traffic flows, not only contributing to congestion but also endangering the historic centre due to pollution and vibrations which threaten monuments. Although access to the centre of the city has been restricted for private cars, and many streets have been completely closed to vehicular traffic, the level of carbon monoxide has reached dangerous levels and has led to emergency strategies. Rome is also faced with a serious parking problem which aggravates traffic congestion.

Another problem in the city is the shortage of housing; there are some 3,500 homeless people, while 100,000 flats and houses stand empty because of a law regulating rent levels at standards much lower than the market, making eviction of tenants very difficult. For this reason, owners prefer to speculate on house prices by selling or renting in the private parallel market (which offers furnished housing mainly to non-residents who do not have recourse to the law). Other problems include the illegal subdivision of houses and apartments, the use of basements for housing, and the spread of illegal settlements on the periphery.

PLANNING ISSUES

Population size has never been considered a problem in the vast municipality of Rome; in fact, many settlements are characterized by low density. Thus, the city has never had a formal population policy. Much of the rapid growth of the city occurred outside regulated areas, generating a severe infrastructure and service delivery problem. While the 1883 master plan consistently predicted eastward growth of the city, official developments were conceived independent of the provisions of the plan, causing the city to expand to directions which were not consistent with the master plan. Some striking examples include the developments which were undertaken for events such as the Football World Cup of 1990 and the 1960 Olympic Games which led to unpredicted expansion to the north and west, and the large development of the Esposizione Universale di Roma (EUR) district to the south-west of the city which was built for the Universal Exposition of Rome in 1942.

In 1954, authorities agreed to stop the annular expansion of the city to protect the centre from increased cross-city traffic flows. The plan, which was not promulgated until 1966 and is still in force, called for a sizeable expansion to the east with two growth centres, the Sistema Direzionale Orientale (SDO), which envisaged 8.5 million square metres of tertiary activities), a second university to be linked with the city through a new road network (the eastern expressway axis), and a mass transit system (subway and suburban railway lines). It also called for the provision of local services (mainly schools) in residential districts, massive rehabilitation of illegal suburban areas, including the Borgate, and the protection of green areas. While the decline in population growth in the 1970s helped to ease the outward sprawl of new residential development, the first decade of the master plan saw thousands of new structures and housing units built illegally, often on sites designed as parks, highways, schools and shops, further hindering the provision of basic services. A ring of new densely populated residential districts emerged around the historic centre, which were providing poor services and were badly engineered for modern traffic. In 1978, the administration approved new policy guidelines–a variation on the master plan–aimed at solving the problems of illegal settlements by strictly enforcing the location and standards of new housing, and preserving the remaining open space by selective demolition of illegal buildings and by the development of a mass transit system.

ST. PETERSBURG
(Russian Federation)

St. Petersburg

St. Petersburg is the second largest city of the Russian Federation and of the former USSR. It is situated in the far north-western corner of the country, on the delta of the Neva river at the head of the Gulf of Finland. The city (originally named Petrograd) was founded by Peter the Great in 1703 and subsequently served Russia as a "window on Europe". As early as 1726, the city was handling 90 per cent of the foreign trade of Russia. For two centuries, 1712-1728 and 1732-1918, the city was the capital of the Russian Empire and then of the Soviet State. It was renamed Petrograd in 1914, Leningrad in 1924 and then in 1991 it reacquired its original name.

DEMOGRAPHIC CHARACTERISTICS

The city experienced considerable industrial growth from its inception. The population rose from 540,000 in 1864 to 1 million in 1900 and to 2 million in 1917. A skilled, highly organized labour force also developed, which contributed to the leading role of St. Petersburg in the revolutionary movement that culminated in the Decembrist insurrection in 1825, the Revolution of 1905-1907 and the February and October revolutions in 1917. The civil war that took place after the Bolshevik Revolution had a disastrous effect on the economy of the city. The population of the city fell sharply to 722,000 in 1920, a mere one third of its pre-revolutionary size, with many people dying from starvation.

During the Second World War, the city again experienced a period of loss and destruction. In 1941, the Germans reached the outskirts of St. Petersburg and cut off communication with the rest of the USSR, while Finnish troops advanced from the north. Nearly three quarters of the industrial plants and many of the city inhabitants were evacuated eastward ahead of the German advance. The remainder of the population endured a siege which lasted 872 days, during which an estimated 660,000 people died, many from scurvy and starvation. More than 3,000 buildings were destroyed and more than 7,000 were damaged during that period. Reconstruction of the city began immediately after the blockade was lifted. By 1949, industrial production had regained its pre-war level and by 1955, it was 2.3 times that of 1940.

The population of the urban agglomeration of St. Petersburg increased from 2.9 million in 1950 to 5.1 million in 1990. The average annual rate of population growth was 1.6 per cent during 1950-1970 and 1.7 per cent during 1970-1975, declining to 1.4 per cent in 1975-1980. In 1980-1990 the growth rate was only 0.8 per cent per annum. The rate of natural increase was 2.1 per cent in 1980, 2.3 per cent in 1985 and then became negative: -1.4 per cent in 1990 and -3.2 per cent in 1991. The population of St. Petersburg is expected to reach 5.8 million by the year 2010.

Lower fertility and higher mortality than in the rest of the country have been characteristic of St. Petersburg. In 1980, the crude birth rate in St. Petersburg was 13.7 per 1,000, compared to 15.8 among the urban population of the Russian Federation. By 1991, the birth rate had fallen to 9.3 in St. Petersburg and to 11.2 among the urban population of the Russian Federation. Mortality increased in St. Petersburg from 11.6 per 1,000 in 1980 to 12.5 in 1991; among the total urban population of the Russian Federation, it increased from 10.0 to 10.6 per cent over the same period.

Migration was the main source of the population growth of the city. The share of migration in population growth during 1981-1985 increased in comparison with the previous decade, although the intensity of the migration process has noticeably decreased.

ECONOMY

The industrial development of St. Petersburg is characterized by a high level of concentration and, at the same time, diversification of production. The city produces both heavy and light industrial goods. Most of its industries require skilled labour force. The leading industry is mechanical engineering, which accounts for more that half of the industrial output of the city. Of primary importance are shipbuilding, production of agricultural machinery, manufacture of power machinery (turbines, generators etc.), instrument-making, machine tool construction and electronics and radio-engineering. St. Petersburg is an international leader in the manufacture of nuclear-powered ocean vessels. Second in importance (to mechanical engineering) are chemical-based industries, which produce fertilizers, tires and other technical rubber articles, plastic goods, synthetic fibres, paints etc. Among the principal light industries are textiles, footwear, tobacco and printing.

Recently, St. Petersburg has begun to move towards a market economy and has attracted foreign investment. Local authorities had intended to make the city a "free economic zone", where foreign investors would be lured by tax breaks and liberal land-use policies. However, following the disintegration of the USSR, the new Government of Russia decided to bring economic reform to all of Russia. Since then, while the number of foreign companies opening branches or establishing joint ventures in St. Petersburg has been growing, the city has tended to lag behind Moscow in the development of new businesses. Being a major centre of the old Soviet defence industry, the city is now experiencing the negative impact on the economy of the deep cuts in Government orders. Privatization of small and medium-sized enterprises has moved faster than in other parts of Russia. The first two foreign banks licensed to open full-scale operations in Russia will be opened in St. Petersburg.

INFRASTRUCTURE AND SOCIAL SERVICES

A major part of the territory of St. Petersburg is only some 1.2-3 metres above sea level, which has made the city susceptible to recurrent flooding from the Gulf of Finland. Especially severe floods occurred in 1777, 1824 and 1924, when almost 70 square kilometres of the city was under water. In order to control the flooding, in the 1980s the city began construction of a long dike across the Gulf of Finland. In addition, a number of canals have been dug to improve drainage.

Central St. Petersburg is divided by tributaries of the Neva river into four sections: the Admiralty Side along the left (south) bank of the Neva; Vasilyevsky Island between the two major branches of the Neva, the Bolshaya Neva and the Malaya Neva; a group of islands known as the Petrograd Side enclosed between the Malaya Neva and the distributary Bolshaya Nevka; and Vyborg Side lying east of the Bolshaya Nevka and north of the Neva. Much of the historical and cultural heritage of St. Petersburg is concentrated on the Admiralty Side.

St. Petersburg now extends to the north and south of the original delta site, with growth spreading westward along the banks of the Gulf of Finland. The suburbs include extensive open green areas that help to reduce the overall population density. However, because of the large number of massive housing blocks, population density in the built-up areas remains extremely high. The urban agglomeration of St. Petersburg includes industrial satellites, health resort towns, scientific centres and towns with world-famous palaces and parks such as Petrodvorets, Pushkin and Pavlovsk.

During the Second World War, St. Petersburg lost up to 5 million square metres of housing, much of which was replaced by massive post-war building programmes. As of 1970, 99 per cent of housing were connected to the water-supply and sewage systems, 98 per cent were supplied with gas and 98 per cent of the apartments had central heating.

St. Petersburg has a well-developed public transportation network, including a subway system and a network of bus, tram and trolleybus lines. The outer parts of St. Petersburg and its satellite towns are connected by a network of suburban electric trains. Twelve railroad lines radiate from the city. St. Petersburg is also a major river port and a seaport of international importance.

St. Petersburg is traditionally an important centre of education, scientific research and culture. In the eighteenth and nineteenth centuries, the first Russian technical schools were established in the city. St. Petersburg currently has a large number of general schools, specialized and technical secondary schools, 41 higher educational institutions, and more than 450 research institutes, including many institutes of the Academy of Sciences of Russia.

Health care in St. Petersburg is more advanced than in most of Russia. The city has several hundred clinics and more than 150 general and specialized hospitals providing medical and dental care, and maternity and nursing services for its residents.

In 1991, St. Petersburg generated 407,200 metric tons of harmful emissions into the atmosphere. Major contributors among stationary sources were heat and power installations, engineering and metalwork industries and district heating plants. Ambient pollution from vehicle emissions account for 55.6 per cent of the total pollution load. During the period 1987-1991, harmful emissions generated by stationary sources decreased by 80,300 tons and those generated by vehicles by 145,300 tons.

POPULATION POLICY

The June Plenum of the Central Committee of the Communist Part of the Soviet Union in 1931 set population limits for both St. Petersburg and Moscow. In the 1980s, with the intent of slowing down the population growth of the city, attempts were made to limit the industrial potential of St. Petersburg and to require residence permits for new arrivals. However, despite those measures, the volume of migration remained significant.

There was a noticeable increase in fertility in St. Peterburg in 1982-1983, in connection with the gradual introduction of measures.to stimulate fertility. The crude birth rate in St. Petersburg increased from 13.7 per 1,000 in 1980 to 14.6 per 1,000 in 1984. In the twelfth five-year plan (1986-1990), the policy of increasing assistance to families with children was further developed. The period of partially paid leave for mothers to care for children was increased to 18 months, with the option of additional unpaid leave until the child is aged 2; the period of leave for working women prior to confinement was increased from 56 to 70 calendar days; possibilities were expanded for women with children to work a partial day (or week), or to work a flexible schedule or at home.

SAN JOSE
(Costa Rica)

San José is the capital of Costa Rica and of the Province of San José. At the centre of a metropolitan area located in the Valle Central, it is the commercial and industrial centre of the country and the focal point of an interconnected system of minor urban centres and ports that constitute the primary urban agglomeration of Costa Rica. The city was founded in 1738 and was made capital of the country in 1823. During the nineteenth century, it developed as a centre of coffee cultivation and later evolved into an industrial centre.

DEMOGRAPHIC CHARACTERISTICS

Beginning in 1950, the city experienced steady population growth. The population of the San José metropolitan area increased from 183,000 in 1950 to 879,000 in 1995; the average annual rate of growth of the metropolitan area was 4.4 per cent during the period 1950-1970, declining to 2.4 per cent during 1975-1985, and increasing to 2.9 per cent during 1990-1995.

During the 1980s, population growth in the Valle Central occurred mainly in the San José metropolitan area; however, such growth was not homogeneous. Whereas the central city accounted for 86.5 per cent of the total population of the metropolitan area in 1950, with nearly half (46.5 per cent) of that population concentrated in the four central districts, by 1990, the proportion of the population concentrated in the central city had decreased to 66.7 per cent, with the four central districts accounting for only 9.6 per cent of the total population. The shift of population to the periphery was especially evident in the southern sector of the metropolitan area, where agricultural areas were increasingly converted to urban uses, so that by 1984 only a few small agricultural areas remained.

Prior to 1980, and during the import substitution phase of the economy of Costa Rica, migration to the Valle Central made a significant contribution to the growth of the urban population. In 1950, 22 per cent of internal migration within Costa Rica occurred in San José and the five surrounding districts, while the remaining 78 per cent occurred in rural areas that were part of the expanding agricultural frontier. In 1963, 44 per cent of Costa Rican internal migration was concentrated in the 10 districts bordering San José; in 1973, all of the districts within the metropolitan area experienced positive net migration, while the rural areas accounted for only 39 per cent of the total internal migration of the country. A study in 1973 found that one third of the population of San José was composed of migrants, 66 per cent of whom originated in rural areas. After 1979, the metropolitan area experienced a decline in net migration; indeed, the central city lost population at the expense of the remainder of the metropolitan area and of medium-sized cities in the Valle Central.

ECONOMY

Between 1840 and 1950, economic development in Costa Rica was sustained by agricultural exports; the agricultural economy (based on the export of coffee) reinforced centralization, since both suitable land and the majority of its population was found in the Valle Central. Between 1950 and 1978, the establishment of import substitution industries further strengthened the centralization of the its population and the economy in San José and the Valle Central. To date, the metropolitan region maintains its agricultural functions to the albeit in a decreased capacity. In 1950, the metropolitan region accounted for more than one fourth of the coffee production of the country by 1972, this proportion had decreased to less than one tenth. The economy entered a transitional period in 1978, which continues to the present. In 1990, 59 per cent of all industrial enterprises were located in the metropolitan area, with 15 per cent of all industries located in the central district of San José.

Between 1979 and 1982, the labour force in the metropolitan area increased, while employment decreased. Between 1983 and 1987, the size of the labour force decreased (only to register a subsequent slight increase), reducing unemployment. Official estimates for 1990 found an average unemployment rate of 7.6 per cent in the metropolitan area. The service, commercial and industrial sectors absorb the largest part of the labour force. Compared with 1980, employment rate in industry and services increased, whereas commerce and construction decreased slightly. Female labour force participation in the metropolitan area remains high, increasing from 32.5 per cent in 1980 to 36 per cent in 1989. There are women not only in the service sector, where they represent almost half of the labour force, but also in commerce and industry, where they represent about one third of the labour force. The proportion of government employees in the metropolitan area remained the same during the 1980s, accounting for approximately 35 per cent of the total workforce.

According to a recent study, the informal sector accounted for roughly 22 per cent of employment in the metropolitan area in 1989, excluding domestic services. Despite the economic crisis, employment in the informal sector did not increase substantially during the 1980s. Whereas open unemployment doubled and real income was halved during 1981-1982, informal employment increased only slightly, returning to the 1980 level by the end of the decade. The proportion of women in the informal sector (about 33 per cent) is about the same as in the formal sector. The educational level of employees in the informal sector is generally lower than in the formal sector.

INFRASTRUCTURE AND SOCIAL SERVICES

As the capital of a highly centralized country, San José contains the majority of the institutions in the central Government. Since the 1960s, the Government has been the primary force behind the growth of the metropolitan area, having improved transportation, water supply, electricity and constructed good quality housing for the lower middle class. As of 1988, the metropolitan area had 100 per cent water coverage.

In most districts of the metropolitan area the population lives above the poverty line and has access to a wide range of social services. There are some isolated areas that have poor or non-existent services, but they are the exceptions. Until 1973, urban growth was extensive rather than intensive, so that pockets of agricultural land were found within the city boundaries. Indeed, as of 1973, only 22 per cent of the metropolitan area were urbanized. As of the late 1970s, there were no large slum areas in the metropolitan area, only pockets of slums, often combined with higher quality housing. The economic crisis at the beginning of the 1980s curbed the physical growth of San José, as the city was faced with increased construction costs, lower incomes and a decline in investment. The number of illegal settlements rose significantly, especially in comparison with the previous period, when they were quite rare. In 1977, only five such settlements existed, and these were concentrated in the central part of the metropolitan area; between 1978 and 1982, six additional settlements appeared, and between 1982 and 1986, 20 new illegal settlements were formed. The illegal occupation of urban land increased to the point where it became a major problem.

During the period 1986-1990, the administration entered into an agreement with the pro-housing movement to legalize existing illegal settlements in exchange for the cessation of further illegal occupation. During the negotiations in 1986, 30 more illegal settlements were created, but in 1987, only two more were added and the phenomenon was contained. In spite of these efforts, poverty has increased. Spatial segregation has changed from a pattern of sporadic settlements before 1980 to a pattern of "large pockets" distributed throughout the metropolitan area. Both the emergency plan during the period 1982-1986 and the National Plan for Social Compensation (*Plan Nacional de Compensación Social*), a relief plan for housing, employment and food aid, were unable to cope with the economic effects of the crisis. In order to help solve housing problems, the Government decided to reorganize the financial housing system by creating a national financial system for housing to collect funds and to optimize the distribution of the financing. Tax incentives were created for the private sector to increase its participation in the construction of low-income housing. Eventually, between 1986 and 1990, 80,000 new housing units were built, producing changes in the physical structure of the metropolitan area.

SAN JOSE

Basic services, such as electricity and water, are provided, but other urban services, such as garbage collection, education, health and transportation, are insufficient. The Government is also concerned with worsening environmental degradation, a problem that is particularly acute in the San José metropolitan area, where it has been calculated that, if current rates of population growth persist, the total quantity of contaminants released into the atmosphere daily by trucks and cars will increase from 1,000 to 3,500-4,700 tons.

SAN SALVADOR
(El Salvador)

San Salvador

San Salvador has been the capital of El Salvador since 1841, with an interruption between 1854 and 1859; the city is also the capital of the Department of San Salvador. The city was founded in 1524 and established on the present site in 1528. El Salvador has a long history of volcanic eruptions and earthquakes, and San Salvador has been destroyed or badly damaged more than a dozen times since its foundation. The most recent destructive quake struck San Salvador in October 1986, killing an estimated 1,200 people and destroying more than a quarter of the city. The country also had a long civil war which began with the *coup d'état* of October 1979. The peace agreement signed on 16 January 1992 began a gradual process of reconstruction.

DEMOGRAPHIC CHARACTERISTICS

San Salvador has experienced steady population growth since the 1950s. Natural increase is responsible for an important part of population growth—indeed, fertility rates remain high, averaging 4.4 children per woman in urban areas—but internal migration also plays an important role. Although many Salvadoreans have emigrated abroad, San Salvador has been an important destination for internal migrants. The Metropolitan Area of San Salvador (SSMA) includes 10 municipalities, 8 in the Department of San Salvador and 2 in the Department of La Libertad, which together have an area of 352.3 square kilometres. The population of SSMA increased from about 200,000 in 1950 to about 1.3 million in 1992. National projections indicate a population of 1.7 million for the metropolitan area by the year 2000.

San Salvador is the primary urban centre of the country; in 1976, SSMA contained 18 per cent of the population of the country and was about three times the size of Santa Ana, the second largest city in the country. The growth trend increased in recent years, when the flow of internal migrants swelled due to the return of refugees and other migrants displaced by the war. The density of SSMA in 1992 was 3,681 per square kilometre. However, since all municipalities include rural areas and some areas are more urbanized than others, densities varied widely.

ECONOMY

The economy of El Salvador was badly hurt by the war. The country is beginning a process of reconstruction but the economic base has been reduced to the levels of 25 years ago. However, as a result of international aid, El Salvador is showing positive signs of recovery and the economy has good prospects for growth. The economy is based largely on agriculture; the limited industrial infrastructure of the country is principally concentrated in the capital. San Salvador is the financial, commercial and industrial centre of the country. The major products of the manufacturing sector are textiles and clothing, leather and wood products, pottery, liquors, soap, cigars and cement. The agricultural sector has been seriously damaged by the ongoing civil conflict, whereas the manufacturing sector was negatively affected by the decline of the Central American common market.

A share of the working population of San Salvador depends upon agriculture at least part of the year. Much of the migration to San Salvador is seasonal, with families returning to the rural areas during the harvest season; however, increasing numbers are currently remaining in the city. The informal sector employs a large portion of the working population, especially the urban poor, who are mainly employed in small service and commercial activities.

Median family income in San Salvador averaged about US$166 per month in 1991; however, income distribution is highly skewed and the majority of the population live well below these levels. Poor families in urban areas spend about 50-70 per cent of their income on food; therefore, malnutrition is widespread, especially among children.

INFRASTRUCTURE AND SOCIAL SERVICES

Living conditions are very uneven in San Salvador and existing gaps have been widened by the 1986 earthquake, which destroyed one quarter of its housing stock. Public services and housing conditions are relatively good in high- and middle-income areas, which include the city centre, the wealthy neighbourhoods on the outskirts of the city, and some public housing areas. These areas were little affected by the earthquake. The largest area of the city is occupied by what has been defined as informal or popular housing, which shelters more than half of the city population. The 1986 earthquake badly damaged or destroyed many low-income settlements, and many residents fled to form spontaneous settlements on the outskirts of the city.

The three main types of informal housing are squatter settlements (*tugurios*), extralegal subdivisions (*colonias ilegales*) and tenements (*mesones*). *Tugurios* are shantytowns built in areas not usable for other construction, including ravines, steep hillsides and railroad right-of-ways–usually located near centres of employment. Typically, *tugurios* do not have water supply or sanitary facilities. In the long-established communities, water is generally available from public taps or water vendors, and many of the *tugurios* have communal latrines. *Colonias ilegales* consist of land subdivided for housing without the installation of basic facilities; for this reason, they cannot be approved by the Department of Urbanism and Architecture (DUA). The typical lot size ranges from 80 to 200 square metres and the size of the dwellings constructed on these lots ranges from 25 to 60 square metres. Construction varies from traditional "baharaque" to concrete and brick homes. The majority of the inhabitants buy their water from vendors while some sink their own wells or draw water from public taps located outside their subdivision. Electricity is more widely available. Transportation within subdivisions is usually a problem. Tenements, or *mesones*, generally consist of 5-50 rooms clustered around one or more central patios. The average *meson* room measures 20 square metres. In most cases, families rent a single room and have to share water and sanitary facilities with other residents. *Mesones* are usually located near the city centre and major industrial areas. They are not condoned by law, although they have achieved a *de facto* acceptance denied to other types of low-income settlements. The municipality provides water, electricity, garbage collection and sanitation; however, access to water is intermittant. The number of inhabitants per toilet and shower averages 15-16 persons. *Mesones* provide shelter for many of the city poor, offering the convenience of a central location close to city markets and sources of employment. The earthquake hit the *mesones* harder than any other type of housing, causing the complete destruction of at least 800 of them and damaging many more, and leaving an estimated 9,000 families without shelter.

PLANNING ISSUES

The Government has been concerned by the intensification of the urbanization process that began in 1980, mainly brought about by the ongoing civil war. The Government is particularly concerned by the rapid growth of SSMA as a result of in-migration. The housing deficit has increased in spite of public housing programmes that have been implemented since the 1960s. During 1960-1970, housing production in urban areas averaged 2,600 units per annum, compared to an annual increase of 10,000 new households. During the 1960s and early 1970s, the Instituto Nacional de Vivienda (INVI) concentrated on building 4-5-storey rental blocks; these apartments housed middle-class families and required large subsidies that could not be replicated after the deterioration of the economic situation. Since the 1980s, the Government has concentrated on providing individual serviced lots or progressive dwellings units. The civil war had a very negative impact on the housing sector; the general climate of violence slowed the completion of projects and created serious financial problems for all public institutions.

Following the 1986 earthquake, the Municipal Urban Development Department (MUDD) resurrected long-term urban development plans that had been shelved for lack of financing. These plans focused on the eradication of squatter areas and on the reduction of urban growth in SSMA. The ambitious reconstruction plan proposed by the local planning authorities included densification of the downtown area, massive reconstruction using private contractors and construction of a new satellite city 32 kilometres to the north of

San Salvador, in the existing township of Apopa. All foreign donations were redirected towards the construction of serviced lots and progressive housing in Apopa. Although fewer than 3,000 lots had been built as of 1991, and even fewer inhabited, MUDD considered that the project would resolve the issue of squatter settlements in San Salvador. Eventually, under pressure from international organizations, MUDD began to consider reconstruction within San Salvador and six months following the earthquake, the local planning authority designed a scheme calling for the construction of "popular apartments" in middle-rise buildings, up to five storeys high, with the aim of densifying the inner city and reducing construction costs. However, it appeared that this form of housing was too expensive for the earthquake victims. Moreover, the densification plan for the city centre faced major obstacles; for instance, water and sewer mains in the inner city were more than 40 years old and their capacity was limited. In addition, it generally cost more to replace inner city infrastructure than to install a new one on the outskirts of the city. Also, the assumption that vertical construction would reduce costs proved to be false. The public housing programme relied on large private contractors, whereas it would have been much less expensive to use small contractors from the informal sector; also, although multi-storey buildings reduced the price of land per unit, the increased construction costs outweighed the benefits, and the monthly payments even at subsidized rates were double those of average *meson* monthly rent.

Mesones did not figure in the existing urban development plans, but the earthquake brought about a change in the official attitude towards them. For the first time, the municipality passed a decree recognizing the role of the *meson* in housing low-income families and permitted *meson* reconstruction. However, possibilities for spontaneous reconstruction were complicated by the fact that *meson* owners as a group had little money to invest in reconstruction. Meanwhile, several non-governmental organizations started effective small-scale rehousing programmes based on the active participation of the future residents, with some programmes even including neighbourhood schools and health programmes which are the two main concerns of low-income residents. In particular, the earthquake reconstruction programme of the Cooperative Housing Foundation, which conducted a six-month study of the comparative advantages of the *mesones*, decided upon the reconstruction of similar units. Two years after the earthquake, the earthquake programme had housed over 150 families at their former *meson* sites. Another project carried out by Salvadorian Christians and World Relief had already rehoused more than 300 families by 1988, aiming at the reconstruction of 1,200 aseismic homes by the end of the project.

SANTIAGO
(Chile)

Santiago is the capital of Chile and its chief administrative, industrial and commercial centre. The central city is located within an area of 22 square kilometres, while the metropolitan area is spread over 2,206 square kilometres. Santiago de Chile was founded as an outpost of the Spanish Empire in 1541. The River Mapocho crosses the city from east to west. Exceptional precipitation in the upper reaches of the river can be a source of flooding which is quickly controlled by the collecting system.

DEMOGRAPHIC CHARACTERISTICS

The population of the Santiago urban agglomeration grew from 1.33 million in 1950 to 2.84 million in 1970 and to 4.73 million in 1990. The rate of population growth for Santiago exceeded 4 per cent during the 1950s, declining to 3.4 per cent in the 1960s, to 2.7 per cent in 1970-1985, and to 2.1 per cent in 1985-1990. Preliminary 1992 census figures show a density of 2,065 per square kilometre. The population of Santiago city accounts for 90.4 per cent of the population in the entire metropolitan region, and 35.3 per cent of the total population of Chile. The infant mortality rate for 1987 was 15.8 per 1,000 live births in the Santiago metropolitan region.

ECONOMY

Processing of metals (especially copper) is an important part of the economic activity of the city. Chile is one of the leading producers and exporters of copper, and Santiago is the main administrative and processing centre of the industry. Other important industries are food processing, textiles and clothing, and the manufacture of leather products. The rural areas around Santiago contain the best agricultural lands in the country and provide agricultural, dairy and meat products to the city.

In 1982, the metropolitan area had an economically active population of 1.28 million, about 78.5 per cent of whom (1.01 million) were employed. Services accounted for the majority of the employed population (67 per cent), followed by mining and industry (19.7 per cent), and construction and public works (5 per cent). Open unemployment has grown from 4 per cent of the labour force in 1973 to 19 per cent in 1984. The proportion of households considered to be "poor or indigent" increased from 29 per cent in 1970 to 46 per cent in 1985.

INFRASTRUCTURE AND SOCIAL SERVICES

Within the Santiago urban agglomeration there is a significant variation in per capita public service expenditures between different municipalities. In 1984, the Providencia municipality spent about US$85 per inhabitant while La Pintana municipality spent about US$4 per person. The housing stock in Santiago is not able to meet the demands of the growing population. There are large slum areas and shanty towns in the city which lack amenities and public services. In the 1970s, a slum eradication programme removed nearly 30,000 families from "precarious settlements" and sent them to new housing projects.

As the most urbanized, industrialized and affluent city in the country, Santiago is faced with many problems typical of large urban areas, among which is environmental pollution. Both industry and vehicles contribute to the severe environmental problems of the city. It is estimated that 1.5 million persons commute daily from the peripheral areas to the city centre, and over 800,000 remain in a small area known as the Central Quadrangle.

Air pollution in the metropolitan area of Santiago is a source of great concern, since the city is located in a valley whose geographic characteristics are unfavourable for the dispersal of air pollutants. As a result, there has been an upward trend in suspended particulates, carbon monoxide, nitrogen oxides and acidity of the air. Among the factors contributing to pollution are the existence of 8,500 diesel powered buses operating in the city (1987) and the nearly 2,000 miles of unpaved streets in the urban fringes, where most of the buses have their terminals. The near absence of wind and low rainfall (12-14 inches a year) add to the problem. In order to reduce air pollution, the city authorities have restricted the operation of motor vehicles (based on license plate numbers), keeping one fifth of all vehicles off the streets each weekday.

Public transportation is provided by a subway and bus system. The collection, hauling and final disposal of solid wastes is reported to have improved greatly in recent years. Some 91 per cent of the population of cities with more than 20,000 inhabitants have sanitation services, and 69 per cent of all refuse collected are dumped in sanitary landfills. The city has a well-designed sewage system which conveys water by means of the main sewer to a tributary of the River Mapocho. There are no sewage treatment plants. Both the Mapocho and Maipo Rivers are badly polluted with urban sewage and industrial waste water.

A Special Commission for the Decontamination of the Metropolitan Region was established by the Government to address environmental issues. Based on the policy recommendations of the Commission, the municipality of Santiago adopted the following emergency measures to alleviate environmental problems: daily cleansing of 150 kilometres of urban roads; restriction of solid waste collection and public works to off-peak hours; prohibition of lorries in the Central Quadrangle; adherence to a strict timetable for passenger discharge for lorries and vans in the Commune of Santiago; a 50 per cent reduction in the number of taxis circulating inside the Central Quadrangle; redesigning of roads to improve traffic flow; the closure of parking sites in the Central Quadrangle and location of new parking metres in the area; demolition regulation; and the enforcement of new pollution regulations and improvement in inspection procedures. An Environmental Information Bureau was established to register complaints and suggestions from the public. In order to encourage the community to take an active role in assuming responsibility for the environment, residents of Santiago and commuters have been urged to use alternative heating systems, replacing coal burning fires; to wet down pavements before sweeping them; to avoid burning leaves; to care for public parks; to promote citizen awareness concerning environmental issues; and to offer suggestions pertaining to environmental protection.

POPULATION POLICY

The Government of Chile regards the growth rates in Santiago as too high, while viewing the rate of growth in smaller cities as satisfactory. The policy of the Government is to reduce in-migration to Santiago from rural areas, and to increase out-migration from Santiago to other localities. In support of these policies, it is making efforts to divert migrants from Santiago through promoting the growth of other cities, land colonization in sparsely settled territories and on the borders of the country, and development of rural areas with the aim of retaining the rural population.

SANTO DOMINGO
(Dominican Republic)

Santo Domingo

Santo Domingo is the capital of the Dominican Republic. Administratively, the country is divided into 29 provinces and the National District. According to the 1981 census, the urban parts of the Federal District (which correspond to urban Santo Domingo) had an area of 162 square kilometres, while the total Federal District had an area of 1,400 square kilometres. The 1981 census data on social and economic conditions in the urban zone of the Federal District indicate a city well advanced in some respects but with serious deficits in urban services and amenities.

DEMOGRAPHIC CHARACTERISTICS

The population of the urban agglomeration of Santo Domingo grew from 219,000 in 1950 to an estimated 2.2 million in 1990. The average annual rate of growth declined from a high of 7.1 per cent during 1950-1960 to 5.1 per cent during 1970-1980, declining further to about 4 per cent during 1985-1990.

United Nations 1994 estimates placed the population of the Santo Domingo urban agglomeration at 2.6 million, which is projected to reach 3.5 million by the year 2010. Approximately 33 per cent of the total population of the Dominican Republic and 51 per cent of the urban population resided in the agglomeration as of 1994.

For 1983-1985, the Demographic and Health Survey estimated a nationwide infant mortality rate of 68 per 1,000 and a rate for the National District of 78 per 1,000. The rather high infant mortality rates are consistent with a survey conducted of 3,670 children in the shanty towns and rural areas, which indicated that the proportion of children with some degree of malnutrition averaged 65 per cent. Fifty per cent of children in the shanty towns of Santo Domingo were found to be malnourished. In 1981, the system of nutritional surveillance for children under five years of age reported a malnutrition level of 65 per cent in Santo Domingo.

ECONOMY

Industrial development in Santo Domingo in the late 1940s and early 1950s accelerated urbanization and enhanced the social and economic role of cities, especially that of Santo Domingo, which became the chief centre of industrial production, as well as the major economic and political centre of the country. From about 1945 to 1961, import substitution industries centred around the production of food, beverages and tobacco; the decade 1968-1978 ushered in the development of the textile, leather and food processing industries, as well as metal and chemical manufacturing. The urban economy expanded at the expense of the rural economy, resulting in an agricultural crisis in the 1960s and a mass exodus of the rural population; indeed, in less than 15 years, some 1 million rural residents migrated to Santo Domingo. An informal economy developed to help raise the standard of living that plummeted during the economic crisis in the late 1970s.

Industry and investments became centralized in Santo Domingo; 77 per cent of the industries of the country, 80 per cent of banking activities, 60 per cent of private construction and 73 per cent of public construction were concentrated in the city between 1969 and 1980.

With regard to the labour force, 423,000 of the economically active population of 518,000 were employed, indicating a rather high level of open unemployment of 18 per cent. Some 21 per cent of the labour force consisted of self-employed persons or unpaid family workers, suggesting the existence of a substantial informal sector.

INFRASTRUCTURE AND SOCIAL SERVICES

Santo Domingo experienced three phases of expansion since the Second World War. The first period, 1945-1960, was characterized by urban expansion chiefly to the north and east, with a large number of middle class concentrated in a narrow strip north of the city, and new settlements of lower income groups developing in the eastern part of the city. The Government financed the construction of settlements for workers close to the main factories in the northern part of the city; migrants settled nearby to take advantage of basic facilities in the area. Inexpensive land and easy access to the commercial centre of the city were two factors largely responsible for the development of this part of the city. Moreover, Government ownership of the land facilitated its occupation by lower income groups and rural migrants. The second phase of urban growth, 1960-1980, was characterized by westward expansion and the growth of middle and upper class residential areas. The middle class also settled in the south-western part of the city. The creation of an industrial zone, the zona industrial Herrera, in the west resulted in significant growth of the surrounding area. Population continued to concentrate in the extreme north-east of the city, largely as a result of increasing rural-urban migration and migration from medium-sized cities. Santo Domingo became increasingly polarized, with the working classes and the poorer concentrated in the north, the eastern strip along the Ozama River and around the industrial zone, while the middle and upper classes were found in other areas. The third phase of urban development, from 1980 to the present, has witnessed expansion in several directions as well as continued growth of the industrial zone, the incorporation of rural suburbs and recently urbanized lower middle class areas, the development of new districts in the eastern part of the city, and significant population growth in the northern districts.

According to the 1981 census, 56 per cent of the population of Santo Domingo lived in owner-occupied housing, 39 per cent lived in rented housing, whereas the remaining 5 per cent had other forms of tenure. Seventy-one per cent lived in separate dwelling units, 18 per cent in single rooms and 15 per cent in apartments. City residents were well served with respect to electricity, with 99 per cent of the population in homes with electricity. The situation with regard to sanitation and water was not as favourable. Sixty per cent of the population lived in homes with a flush toilet, while 35 per cent had to rely on pit latrines and 5 per cent had no toilet facility. Fifty per cent of the population had piped inside water, 32 per cent had access to piped water within 100 metres of the home, whereas 18 per cent had to rely either on a water tap more than 100 metres away from the home or some other source. According to the 1981 census, 67 per cent of the population of Santo Domingo had municipal waste collection, 1 per cent had waste collection by other institutions, whereas 32 per cent had no waste collection.

PLANNING ISSUES

The official policy of the Government is to reduce migration from rural areas into Santo Domingo, and to increase out-migration from Santo Domingo to other parts of the country, mainly through a programme of agrarian reform and investment in infrastructure.

In an effort to facilitate the development of commercial areas, increase employment opportunities and regulate the movement of people and traffic in the inner city, the Government launched an urban transformation policy in 1990 which replaced residential areas of the old districts of Santo Domingo with commercial areas and highways.

SAO PAULO
(Brazil)

Founded by Jesuit priests in the second half of the sixteenth century, São Paulo had its beginnings on a wide plateau, 80 kilometres inland and almost 800 metres above sea level. In the early nineteenth century, the cultivation of coffee as an export crop began to develop beyond the coastal mountains in what is now São Paulo State. The market centre for the coffee growers was the city of São Paulo, which by 1920 was producing 80 per cent of Brazil coffee and 60 per cent of the world supply.

By the early 1900s, manufacturing-initially to service agriculture-became established in São Paulo. Profits from the coffee growers, the effects of isolation in two world wars, the availability of cheap energy and a large pool of educated immigrants further stimulated manufacturing activity. From the inter-war period, but especially after the Second World War, the Government of Brazil directly encouraged industrial development and by 1950, São Paulo was the chief manufacturing centre of Brazil. During the 1950s, industrialization accelerated as a result of import substitution and the construction of a highway system, which reinforced the nodal character of the city.

DEMOGRAPHIC CHARACTERISTICS

From an initial population of some 100 in the mid-1500s, the city population reached 31,000 in 1872. In 1890, when Rio de Janeiro had a population of more than half a million, São Paulo had only about 65,000. By 1900, owing to a massive influx of immigrant workers, the city population reached 240,000.

São Paulo has experienced extremely rapid population growth over the past half century. The city of São Paulo grew from 1.3 million in 1940 to 2.2 million in 1950, 3.7 million in 1960 and 5.9 million in 1970. The population of Greater São Paulo grew from 1.6 million in 1940 to 2.4 million in 1950, to 4.7 million in 1960 and to 8.1 million in 1970. During the 1940s, Greater Sao Paulo grew by 5.4 per cent per annum. Between 1950 and 1960, it was one of the most rapidly growing metropolitan areas in the world, with a rate of population growth of 6.6 per cent per annum—twice the national population growth rate. Greater São Paulo grew by 5.4 per cent per annum during the 1960s and then slowed to 4.1 per cent during the 1970s, which was one and a half times the national rate of population growth. According to the United Nations 1994 assessment, the population of Greater São Paulo was 16.4 million in 1995 and is projected to reach 20.1 million by the year 2010.

Studies conducted in preparation for the new master plan called attention to the beginning of a major shift in the pattern of population distribution within Greater São Paulo. In contrast to a progressive slow-down in the rate of expansion of the periphery, planners called attention to the resurgence of growth in the interior and intermediate rings of the city, as a result of both the construction of high-rise buildings and of the proliferation of multi-family tenements. Based on the 1991 census, the extent of this shift has been called into question. Whereas the slow-down in the growth of the periphery was confirmed by the 1991 census, and apparently was even more rapid than assumed, all other areas of the city of São Paulo experienced negative or very low rates of population growth.

Life expectancy at birth in São Paulo has increased considerably—from 47.6 years in 1940 to 68.2 years as of 1985—a gain of more than 20 years. The gains in life expectancy have been uneven over the period, however, with the major advances taking place in the 1940s and 1950s following the introduction of antibiotics and the expansion of the city water and sanitation networks. During the 1960s and 1970s, as population growth on the periphery strained the city capacity to provide basic services, there was rapid deterioration in the quality of life, which was reflected in the fact that life expectancy in 1970 remained about the same as in 1960. After 1970, however, large-scale involvement by the Government in expanding water and sanitation networks, medical services and vaccination programmes once again brought about significant gains in life expectancy.

Greater São Paulo has also experienced a rapid decline in fertility, with the total fertility rate (TFR) declining from 5 births per woman in the early 1960s to 3.5 births per woman in the mid-1970s and to 2.5 births as of 1987. Indeed, fertility in São Paulo has declined to the extent that there has been a decline in the absolute number of births. In 1982, for example, the year in which the absolute number of births began to decline, there were 416,588 births; in 1987, there were only 339,788 births.

A number of factors have contributed to fertility decline in São Paulo. Women's participation in the workforce rose from 23 per cent in 1970 to 33 per cent in 1980. The proportion of persons with a middle- or higher level education also rose from 11 to 22 per cent. On the negative side, with the continuing economic crisis and reduced purchasing power in Brazil, couples have found themselves unable to support large families. Whereas there has been some opposition to family planning from the hierarchy of the Catholic church, clergy at the parish level have generally supported the efforts of couples to limit their family size.

ECONOMY

The economic base of Greater São Paulo, compared with that of Brazil as a whole, is highly specialized in performing industrial and modern central-place service functions. The percentage of persons employed in the secondary sector is almost twice as high as in Brazil as a whole. Indeed, nearly one third of the industrial labour force in Brazil is located in Greater São Paulo. Greater São Paulo is therefore the most industrialized area in Brazil and rough estimates indicate that its contribution to total value added by the manufacturing industry in Brazil in 1980 was about 40 per cent; this value dropped to 31 per cent in 1990. The main manufacturing sectors in São Paulo are metallurgy, automotive and transportation materials, electrical and communications equipment, and mechanical industries. Together, these industries accounted for 40 per cent of the manufacturing added value in the metropolitan area in 1988. The percentage of persons employed in the industrial sector in Greater São Paulo in 1980 was 31 per cent; this figure had dropped to 22 per cent by 1990.

INFRASTRUCTURE AND SOCIAL SERVICES

The rapid consumption of urban land in São Paulo–the city has expanded nine times in area over the past 30 years–not only has had significant impact on the land market; it had also profound ecological consequences. The immense continuous urban area, filled with skyscrapers and a highly intensive road network, has produced conditions for an island of heat, creating a temperature gradient of 5 degrees centigrade between the centre and the periphery. Uncontrolled expansion has also reached some of the last remaining reserves of natural vegetation in the region–steep slopes that have a high capacity for erosion.

Aside from early attempts by the authorities to protect the river basins, land use in São Paulo has been quite chaotic, with very rapid growth spreading continuously into areas where the soil is unsuitable and highly prone to serious erosion. More stringent land-use laws (e.g., those aimed at illegal subdivisions) have had some effect on slowing peripheral growth, and the Government is now trying to guide development to designated areas, largely by means of land-use controls.

During the 1980s, large numbers of middle-class households experienced downward mobility and were forced to abandon dwellings near the centre of the city and to buy or rent cheaper accommodations on the periphery. At the same time, many of the poorest inhabitants of the city could no longer afford housing on the periphery and crowded into *corticos* (multi-family tenements–literally "beehives") in central areas of the city. Currently, an estimated 7.7 million people are estimated to be living in substandard housing: as many as 1 million in *favelas*, 3 million in *corticos*, 2.4 million in illegal developments on the periphery, and another 1.3 million in other types of precarious housing.

Public housing in the city of São Paulo has been a massive failure. The more affluent households in the city have been served by private developers, but public housing has reached only a small proportion of lower income households. The city has been built up over the years mainly by auto construction, with lower income residents opening up illegal subdivisions or constructing *favelas* on vacant, often environmentally fragile land. Many of the *favelas*, which largely house long-term residents and tend to be constructed of durable building materials, have eventually been recognized as permanent structures and have been extended essential services (e.g., water and electricity hook-ups). After years of oscillating policy responses to the *favela* problem, the Government now acknowledges that it can do little else but accept and upgrade the *favelas*, incorporating them into the "legal" city by means of cross subsidies.

Greater São Paulo is served by a vast network of river basins and man-made reservoirs. Currently, an impressive 95 per cent of the population of the city of São Paulo and 93 per cent of the population of Greater São Paulo have piped inside water. Sanitation, however, is one of the major challenges facing planners, with less than a quarter of the sewage of the metropolitan area currently being fully processed.

Whereas collection of solid waste is more or less adequate, disposal remains a serious problem. The city is served by three sanitary landfills, two incineration plants, two composting plants and a recycling centre. The entire system is now saturated. One sanitary landfill has an estimated life-span of less than one year and the other has a life-span of less than four. Many of the dumping sites in São Paulo are badly situated. Leachates from one dumping site have contaminated the main tributaries leading to a major reservoir.

Air quality in the city of Sao Paulo is degraded by the presence of excessive levels of carbon monoxide, ozone and particulates. Increases in air pollution levels have been associated with increases in morbidity and mortality and with increased incidence of respiratory and cardiovascular diseases. Industrial pollution has been reduced by about 90 per cent in recent years, but ambient pollution remains a serious problem. Currently, there are more than 3 million private motorized vehicles in the metropolitan area, a fleet that is growing at a rate of 5 per cent per annum. Despite the fact that about half of the cars run on less-polluting alcohol, as of 1989 motorized vehicles produced more than 800,000 tons of carbon monoxide.

The transport sector in the city of São Paulo is deteriorating, with declining quality of service, scarce resources, high level of subsidies, lack of coordinated planning and presence of numerous transportation agencies with overlapping functions. Rapid growth in the number of private vehicles has caused severe traffic congestion. The public bus system is poorly maintained, slow, crowded and a major source of air pollution. The São Paulo Metro, although well planned and well maintained, still accounts for only about 5 per cent of total person trips in the metropolitan region and is unlikely to increase its share in the near future.

Although the São Paulo Metro is a small network that mainly serves short distances, with stations distributed at average distances of less than 1 kilometre apart, it is one of the world's most crowded, carrying 16 million passengers per annum per kilometre of line. An average of 1.8 million riders per day use the system. The east-west line has one of the world's highest figures for the number of passengers carried, reaching 65,000 passengers per hour in one direction at peak periods.

Buses continue to be the major transportation mode for the lower income households in São Paulo, transporting about 5 million passengers daily. Bus routes cover the entire metropolitan area, reaching even unpaved streets. Because of lack of revenue and a poor record of maintenance, the quality of the public bus service has been declining. Overcrowding is a very serious problem. Owing to lack of investment, there are the same number of buses to date as there were 10 years ago, although congestion has been increasing by about 20 per cent per annum.

PLANNING ISSUES

The first comprehensive plan for the metropolitan region, the Metropolitan Plan for Greater São Paulo (PMDI I), was issued in 1970. PMDI I emphasized the need to orient private investment so as to bring about a more efficient urban structure. This would involve controlling horizontal expansion by promoting higher densities in certain areas and decentralizing employment, making it more compatible with patterns of residential settlement. The plan also recommended guiding expansion of the agglomeration towards the east and north-east and restricting growth in the south and south-east in order to protect the major water basins and to preserve ample reserves of public space for future use.

It soon became clear, however, that parts of the plan were unrealistic and that it would be impossible to undertake the large-scale public works that it envisioned. The only major recommendation that could be implemented was the zoning of the city in functional areas. The zoning laws were therefore enacted and they have essentially regulated development in the city of São Paulo over the past two decades.

The 1970 metropolitan plan was revised in 1982, but the revised version was not approved and was largely ignored by the various sectoral bodies, partly because it did not have sufficient financial backing. Beginning in the mid-1980s, metropolitan planning began to consist of essentially isolated actions. Currently, there is no operational plan for Greater São Paulo. In the city of São Paulo, the major spatial initiative in recent years was the its proposed new master plan, the Plano Diretor. Following the change in administration in January 1993, the future of the plan is now uncertain.

SEOUL
(Republic of Korea)

Seoul traces its origins to a small settlement that was capital of one of the three ancient kingdoms of Korea. With the founding of the Chosun kingdom in 1392, Seoul became the capital of a highly centralized administration, which built a walled city in the late fifteenth century patterned on Chinese principles of urban design. The city grew in a haphazard fashion, mainly inside the fortified walls, with the population fluctuating at about 200,000 from the mid-seventeenth century to the late nineteenth century.

The opening of treaty ports in the 1870s and 1880s and the construction of the Seoul/Pusan railroad marked the beginnings of modern urban growth in Korea. During the period of Japanese rule (1910-1945), Korea developed as a colonial enclave, producing rice and other foodstuffs for the Japanese market. Only a limited amount of light manufacturing developed in the Seoul area. Following demobilization, more than 1 million Koreans returned, mainly from Japan or Manchuria, with many resettling in the Seoul area. During the Korean Conflict (1950-1953), a significant number of Seoul residents fled the city, which was largely reduced to rubble, its economy destroyed. However, Seoul grew rapidly after 1953, partly due to the influx of 1.2 million people from the north, who were drawn partly by the concentration of wartime relief efforts in the city.

DEMOGRAPHIC CHARACTERISTICS

Seoul has undergone major demographic changes in recent decades, including declining fertility, a growing proportion of persons in the economically active ages, declining household size and significant population movements. With almost all return migration of displaced persons completed by 1960, migration in Korea assumed a more typical pattern, with Seoul becoming the predominant destination of rural out-migrants from most regions of the country. The population of Seoul more than doubled between 1955 and 1966, reaching 3.7 million, and grew by more than 80 per cent in the succeeding decade, reaching 6.8 million in 1975. However, the pace of the population growth in Seoul began to slow markedly in the early 1970s, declining below the national urban average. As of 1983, the population of the city was estimated to be 9.2 million, or 23 per cent of the total national population. The population of the Seoul metropolitan area was about 12.1 million, while that of the capital region as a whole was about 14.7 million.

Within the city there has been a shift of population south of the Han River and the gradual emergence of a polynuclear spatial structure, consisting of two manufacturing centres and one tertiary centre in addition to the central business district. There also has been a marked slow-down in migration to the city of Seoul and a deconcentration of population to the satellite cities, accompanied by a shift in manufacturing employment. Since the late 1960s, the six satellite cities in the Seoul metropolitan area (Incheon, Suweon, Seongnam, Eiujeongbu, Anyang and Bucheon) have expanded very rapidly, at average annual rates of about 6 per cent, indicating a gradual deconcentration of population from the central core.

Fertility in Seoul has declined steadily as a result of the overall modernization process and such factors as rising levels of literacy, improvement in the status of women, widespread accessibility of family planning services and the introduction of information, education and communication activities in schools and factories. Because of the decline in fertility and the predominance of young adults among recent migrants, the age structure of the Seoul population exhibits an increasing share of economically active persons, particularly between ages 25 and 29, and a decreasing share of persons under 14 years of age.

ECONOMY

During the period of post-war reconstruction, the Government of the Republic of Korea placed primary emphasis on the construction of basic industries for import substitution and on the expansion of social overhead capital. By the mid-1960s, the Government began to pursue an outward-looking industrialization strategy, promoting labour-intensive light manufacturing industries. As of 1983, of the total of more than 8,000 registered manufacturing firms, the industries which were relatively highly concentrated in Seoul were metal products, machinery and equipment (31 per cent), followed by textiles, apparel and leather goods (17 per cent); paper, printing and publishing (13 per cent); chemicals and petroleum products (roughly 13 per cent); non-metallic mineral products (6 per cent); timber products (4 per cent); and food, beverages and tobacco (4 per cent). The share of Seoul in manufacturing has been declining, however, as industries have moved out to contiguous Kyonggi Province. Seoul is rapidly becoming a post-industrial city whose major functions are in the areas of international trade, banking and finance, communications and information processing.

Significant progress has been made in recent years in improving living standards in Seoul. Real per capita income, for example, rose from $87 in 1962 to nearly $2,000 in 1985. Moreover, the pattern of income distribution is less skewed in Seoul than in many large developing country cities.

INFRASTRUCTURE AND SOCIAL SERVICES

Seoul has a long history of relatively successful intervention in the urban land market. The Government's land readjustment programme was enacted in 1937 to deal with the problem of unplanned urban growth on the hillsides of the city and on valuable agricultural land. The land readjustment programme is widely considered to be an example of successful intervention in the urban land market, as it involves only short-term holding of land by the public sector and results in significant improvements.

Whereas there has been significant improvement in the supply of many public services in Seoul, the housing stock/households ratio has remained basically unchanged for the past two decades. The shortfall is mainly the result of the inability of new construction to keep pace with the rapid population growth of the city. However, it also reflects the high rate of household formation due to the emergence of the nuclear family as the predominant family type, the demolition of many older housing units in recent years, and the lower-than-planned level of new construction due to the effects of the post-1979 recession.

Unlike the situation in many other large cities, where water supply problems have reached near-crisis proportions, the volume of water supply in Seoul has increased steadily and kept pace with population growth. The Government's current plans for the water supply sector include maintenance and repair of the existing system, improved distribution, expansion of production facilities and improved control of water quality.

The city sewerage network, which displaces sewage and rainwater through the same culverts, is fairly adequate. The Government has been constructing separate culverts for rainwater and sewage displacement in new development areas, as well as along the Han River and its tributaries, to ensure that sewage and industrial wastes are kept from reaching the river. In addition, a tunnel was constructed under the Han River reclamation area, in order to carry sewage and industrial waste out to Incheon, where a new treatment plan had been constructed.

Although the solid waste discharge trend in Seoul has been increasing (from 5,700 tons per day in 1970 to more than 22,000 tons in 1983), collection has more or less kept pace with the waste generated. By means of traditional forms of service collection—e.g., a door-to-door collection system using handcarts—the 22,000 tons of solid waste generated daily are collected on a 100 per cent coverage basis.

The Government is tackling the problem of water pollution through the Han River development project and the relocation of industries that discharge heavy metals. The Government's efforts to combat worsening air pollution include expanding the supply of low-sulphur oil, which has already been supplied to all industrial facilities subject to the Environmental Protection Act; increasing the number of households using natural gas rather than environmentally harmful briquet coals as household fuel; and reducing hazardous automobile emissions.

SEOUL

As a country that imports all of its petroleum supplies, the ambitious energy planning of the Government of the Republic of Korea was upset during the late 1970s following the series of price increases by the Organization of Petroleum Exporting Countries. In response, the Seoul government instituted a number of conservation measures and raised the price of fuel significantly. In recent years, the consumption of gasoline actually has fallen, mainly because the Government passed along price increases to consumers.

Transport problems are less acute in Seoul than in many of the other mega-cities in the world, mainly because of the still moderate levels of automobile ownership, the rapid pace of road and bridge construction, reasonably good traffic management and efficient bus and subway system. However, traffic problems are perceived by the residents of Seoul to be very serious. The city fleet of more than 8,000 buses, which are operated by a total of 90 companies, carry the largest proportion of passengers, 65 per cent in 1983. In recent years, the use of personal transportation modes has been increasing. Private automobiles carry only 8 per cent of passengers but account for 85 per cent of vehicles. The Government foresees using the subway network not only to relieve surface congestion and cope with future passenger volume but also to stimulate subcentring within the central business district and to promote decentralization to the satellite cities.

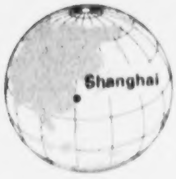
PLANNING ISSUES

Beginning in the early 1960s, initially in response to national security concerns (e.g., the fact that the major concentration of population and economic activity in the country was close to the Demilitarized Zone (DMZ) and was therefore within artillery range of the Democratic People's Republic of Korea), the Government devised a variety of policy instruments aimed at reducing the growth rate of the capital region, decentralizing population and economic activities out of the central business district and the city as a whole, and promoting more balanced urban and regional development at the national level. Over the past two decades, the Government has adopted a succession of executive orders, master plans, national land-use plans and plans for the redistribution of population from the capital region. However, the slowing of the growth of Seoul occurred later than anticipated by planners. Between the early 1960s when the earliest decentralization plans were formulated and the mid-1970s, Seoul received hundreds of thousands of migrants annually.

In attempting to evaluate the effectiveness of alternative population distribution policies and instruments, Seoul is an interesting case-study because of the broad array of policy instruments adopted over the past two decades. Indeed, there are few countries in the world that have experimented as much with strategies of metropolitan development. Some of the major instruments employed in Seoul include: the establishment of a spatially large green belt, which induced the leap-frogging of development into the satellite cities; an industrial location policy that included various tax incentives as well as direct controls on industrial development; the promotion of local industrial estates and the construction of a new town to attract industry at Banweol; the use of controls on the expansion of educational facilities; the imposition of higher residential taxes; the designation of various planning zones (e.g., restricted management zone, development inducement zone) as a guideline for spatial restructuring; and the use of public transport investments as a means of influencing the direction of development.

The mixed success of those policies reveals the difficulty of controlling population movement—even in a small, ethnically homogeneous country with a relatively strong central Government and a history of efficiency in implementing programmes. Moreover, the case of Seoul illustrates the difficulty in separating the effects of alternative policy measures. For example, it remains unclear as to what extent the decentralization that has taken place in Seoul has been a spontaneous process and to what extent it has been policy-induced.

SHANGHAI
(China)



Shanghai is the most populous city in China and one of the world's major ports. It was established more than 700 years ago at the tip of the Changjiang (Yangtze) River Delta on the East China Sea. Walls were constructed around the city in 1553, when its population consisted of about 60,000 households. By 1816, more than half a million people lived in Shanghai, and it had become a thriving commercial centre. Shanghai was opened to the West as a trading port in 1843 and, for about a century, the city was occupied by foreign commercial interests. The foreign settlements were returned to China in 1945; by that time the population of Shanghai had reached 3.7 million.

The municipality of Shanghai is under the direct jurisdiction of the Central Government of the People's Republic of China. The urban agglomeration includes the inner city, several satellite towns and many small towns in the rural areas. Population density in the central city is very high—8,265 per square kilometre; the transitional zones have densities varying between 5,800 and 6,950 per square kilometre; and the rural hinterland has a density of 580-965.

DEMOGRAPHIC CHARACTERISTICS

The urban agglomeration of Shanghai is estimated to have grown from a population of 5.3 million in 1950 to 15 million in 1995. United Nations projections estimates its population to be 21 million by the end of the twentieth century. The average annual rate of population growth declined from a high of 5.1 per cent in 1950-1960 to 0.5 per cent in 1965-1980. Since then, however, the rate has increased slightly, reaching 1.6 per cent in 1985-1990. The main causes of rapid population growth in the 1950s were a sharp rise in natural increase, unregulated in-migration from other localities and extension of the city boundaries. Factors responsible for the stabilization of population after that period included success of the Government family planning programme, a decline in the rate of natural increase, and the construction of satellite towns which absorbed part of the growing urban population.

ECONOMY

Shanghai is the major industrial agglomeration in China. In 1981, about 72 per cent of the total investment in Shanghai were in industry, particularly heavy industry. The primary industries are machinery manufacturing, textiles and steel. The city produces a large percentage of the power generation equipment and ships in China; recent developments include the manufacture of new metals, synthetic materials, and precision instruments and lathes. Development of the steel industry began during the first Five-Year Plan (1953-1957) and continued into the 1980s with the construction of the huge Paoshan steel complex.

The textile industry is the second largest in Shanghai, with some 430 textile mills as of 1980. Proximity to the cotton-growing regions of China and access to the coast for easy international transportation have contributed to the strategic importance of the city. As the leading transportation centre in China, the port facilities in Shanghai are growing in capacity through containerization, mechanization and modernization. The industries in Shanghai produce a diversified range of products. Light industries manufacture bicycles, watches, sewing machines, cameras, electronics and computer goods, whereas the products of heavy industries include motor vehicles, farm machinery, chemicals, petrochemicals and chemical fertilizers.

INFRASTRUCTURE AND SOCIAL SERVICES

After the 1949 revolution, city planning in China emphasized integrated industrial centres consisting of complementary industries clustered together, with workers' housing nearby, so that employees were within walking distance of their workplace. These centres include a full range of retail shops and services. The same design principles have been applied in Shanghai to more than 150 integrated developments built since 1949. Some of these integrated centres are located within reconstructed parts of Shanghai, whereas others are in 12 new industrial satellite towns surrounding the city. The populations of these centres range from 50,000 to 250,000. Most new growth since the early 1950s has followed such functional zoning, helping to reduce commuting. About 600,000 housing units, totalling 30 million square metres, were constructed between 1949 and 1983. The average floor area per person is about 4 square metres, although about 70,000 units provide less than 2 square metres per person. Housing shortages are still a problem, especially for newly married couples.

Almost all households have access to piped water, electricity and garbage collection. The solid waste in Shanghai, which has a high organic content, is carried to the surrounding rural areas and provinces and used as fertilizer. Part of the inorganic garbage, after being sorted, is used for pit filling, road construction and brick making. Recycling stations purchase and recycle used materials such as waste paper, plastics, bones and metal.

The health-care system in Shanghai operates on three levels. At the primary level, for every 4,000-5,000 population there is a neighbourhood health-care station, and for every 50,000-100,000 population there is a community clinic. The secondary level is composed of district hospitals, and the tertiary level of municipal hospitals. Improvements in the health-care system have led to a decline in mortality and have increased life expectancy. In 1983, the infant mortality rate was 13.8 per 1,000 live births, the crude death rate was 6.5 per 1.000 population, and the expectation of life at birth was about 73 years.

Heavy dependence on coal as a source of fuel for both industrial energy and residential heating in Shanghai has resulted in significant air pollution. The high levels of suspended particulate matter are associated with morbidity for susceptible individuals, and chronic exposure may impair lung function in children. Shanghai has the highest cancer mortality rate in China; lung cancer mortality in males doubled between 1963 and 1985. Industrial relocation and reduction of new construction in the central city have helped to alleviate this problem. Another serious environmental problem is the pollution of the Huangpu River which is the major source of potable water in Shanghai. As of the early 1980s, most of the pollution was from industrial effluent, compounded by the daily flow of about 4 million cubic metres of untreated human waste. Efforts are underway to improve the city water supply. Land subsidence is another problem which has led to reduction in the use of underground water and to the recycling of used water, as well as to the injection of water into the subsoil during the winter months.

The number of motor vehicles in Shanghai increased from 20,000 in 1970 to 79,000 in 1980. In 1990, 147,700 motor vehicles were registered, of which about 55,000 were passenger vehicles. In 1986, there were over 900 miles of transit routes throughout the city. About 1.8 million bicycles in Shanghai provided an important means of transportation. Most main roads have separate lanes for bicycles. The bus system provides an important means of public transportation. In 1980, about 9.4 million passengers daily were transported by buses and street cars.

Since 1992, Shanghai has made comprehensive efforts to reduce industrial pollution and improve the quality of the environment. Major dischargers of pollutants are required to control their emissions or move elsewhere. In areas where pollution is an urgent problem, Shanghai undertakes special environmental projects, such as protecting water sources, reducing smoke, dust and noise, and planting trees and grass. The Central Government of China adopted environmental protection as a priority several years ago; it provides a legal basis to cities for administering environmental regulations. Cities have the primary responsibility for ensuring compliance with environmental laws: they monitor environmental quality indexes, inspect sources of pollution, supervise efforts to improve waste treatment, and assess penalties for violators. At the same time, they must balance the needs of the environment with the requirements of urban economic development.

PLANNING ISSUES

A 1953 master plan proposed expansion of the Shanghai urban area from 140 square kilometres to 600 square kilometres. The plan was revised in 1959 to control the expansion of the urban area. It also called for the construction of industrial satellite towns on the outskirts of the city. Subsequently, several industrial towns were constructed to provide adequate housing facilities for factory workers. After the second Five-Year Plan, in order to check the growth of the urban population, the Municipal People's Government decided to relocate some of the industrial enterprises from the urban area to the suburbs. By 1985, some 800 factories had been moved to the surrounding towns, with the number of relocated workers and family members exceeding 700,000. Most of these workers were settled in the seven satellite towns built around Shanghai.

SINGAPORE
(Singapore)

The city-state of Singapore is the capital of a country at the southern tip of the Malay Peninsula bearing the same name; it is also home of the world's largest port. Since 1965, Singapore has been an independent republic in which the national Government is also the city government. The total land area of Singapore is about 622 square kilometres, of which about 48 per cent are used for residential, commercial and industrial purposes and another 6 per cent for agriculture. The remaining 46 per cent consist of forest reserves, wetlands and other areas. Despite its almost total lack of natural resources, its strategic location at the centre of South-eastern Asia and at the crossroads of major shipping and air routes, coupled with governmental vision, partnerships with multinationals and an orientation towards the future, has enabled Singapore to become a symbol of economic and technological prosperity, with influence far beyond its region.

DEMOGRAPHIC CHARACTERISTICS

Founded in 1819 as a trading port, with a population of only about 150 , the population of Singapore grew to about 200,000 in 1890 and to 418,000 in 1921. The population increased from 950,000 in 1950 to 2.56 million in 1985. The annual rate of population growth averaged 2.5 per cent between 1950 and 1970, swung sharply upwards to 4.4 per cent between 1970 and 1980, and then dropped sharply to 1.2 per cent in the 1980s. United Nations estimates place the population of the Singapore urban agglomeration at 2.8 million, projected to reach 3.1 million by the year 2010. With a population density of 4,471 per square kilometre in 1991, Singapore is one of the world's most densely populated countries.

ECONOMY

During the late 1960s and throughout the 1970s, Singapore aggressively pursued the goal of economic expansion through a vigorous campaign of export promotion. In part, this was accomplished through persuading multinational corporations to establish factories to assemble or manufacture for world export markets, particularly to Northern America, Western Europe, Australia and Japan. It was also accomplished by a successful policy of increasing domestic savings, including compulsory contributions to a Central Provident Fund, which resulted in one of the highest savings ratios in the world, with gross domestic fixed capital formation well above 30 per cent after 1971. The exceptionally rapid economic growth of Singapore—in some years reaching double-digit levels—has provided the city with the revenues and resources needed to provide its citizens with modern infrastructure.

The economic approach of Singapore has been to capitalize on its strategic location by establishing world-class transportation and handling facilities, creating an excellent communications and information technology infrastructure, upgrading the skills of its labour force to keep up with the demands placed upon it (its workforce has been rated by the Business Environment Risk Information Service in the United States as the best in the world in each of the past 10 years) and, perhaps, most importantly, closely monitoring global technological developments and absorbing them as quickly as possible. Singapore also encourages multinational companies to establish highly sophisticated, automated and flexible manufacturing centres. In an effort to promote what has been termed "knowledge work", Singapore offers incentives and tax rebates to companies with design and development activities as opposed to those with elementary manufacturing and labour-intensive jobs. Realizing the importance of self-sustainment in the area of new technologies, the Government has urged the creation of local research and training facilities to avoid excessive dependence on multinational companies. The GINTIC Institute of Computer Integrated Manufacturing strives to ensure that Singapore takes the lead in integrated, flexible and intelligent design and manufacturing activities.

In the 1980s, the Government of Singapore began to focus on knowledge-intensive industries, which led to the current emphasis on information technology, aerospace technology, pharmaceutical products and computer-aided manufacturing. Its information technology strategy is at the centre of its overall economic planning. In 1986, the National Computer Board put forth the Comprehensive National Information Technology Plan (NITP) with specific objectives for training people, creating an information technology culture, enhancing the communications infrastructure, generating and supporting information technology applications; promoting a world-class local information technology industry which includes software, hardware and computer services, and establishing new information technology applications through research and development. The Government has also formulated a plan, called IT2000, to transform commerce and society, and create an "intelligent island"; this will be accomplished by taking diverse functions such as video-conferencing, artificial intelligence, robotics and networking, and organizing them into a unified whole.

Companies which were initially attracted to Singapore by its receptive and cheap labour force, as well as a favourable governmental environment, continue their manufacturing pursuits while creating and expanding research and design centres. Over 650 multinational corporations have manufacturing facilities in Singapore.

Singapore has become a partner in the "Growth Triangle", economically linking Singapore, Johor Bahru in Malaysia and the island of Batam in Indonesia. Singapore provides the technology, while Johor and Batam supply much-needed land, water, electricity and low-cost labour. The concept of a Growth Triangle typifies the global trend towards subregional economic cooperation and exhibits features common to extended metropolitan regions which characterize Asian urbanization.

INFRASTRUCTURE AND SOCIAL SERVICES

In the early years of settlement, Singapore was faced with a severe housing shortage caused by large influx of immigrant workers and high rate of natural increase. Living conditions were substandard, with as many as 50 people sharing small rooms in shacks or shophouses. Approximately 25 per cent of the population were found in 1 per cent of the total area of Singapore. Squalor, open sewers, poor drainage, inefficient transportation system and congestion compounded the problems. The Government was faced with the task of clearing the slums, housing the rapidly increasing population and revitalizing the inner city so as to encourage economic growth.

Beginning in 1959, the Government assumed the major responsibility for providing housing, with the aim of supplying shelter and proper sanitation. As of 1986, some 85 per cent of the population were living in flats constructed by the public sector. Water was supplied by 14 catchment reservoirs, 10 service reservoirs and 8 water treatment plants in a network that has 4,000 kilometres of pipeline. Per capita domestic consumption in 1986 amounted to more than 155 litres per day.

In the area of transport, Singapore has sought to promote mass transit and to reduce private automobile use. To discourage growth in car ownership, import taxes have been raised and vehicle registration fees have been increased. To reduce morning traffic flows in congested downtown areas, the authorities instituted an area licensing scheme which required motorists to purchase special licenses to enter the downtown area, and which raised the price of parking fees. Between 1975 and 1983, morning traffic flows in the downtown area decreased from 74,000 to 58,000 vehicles, in spite of rising incomes. The population is served by some 3,000 buses, operated mostly by two large private companies, and by some 12,000 taxis. A 67-kilometre mass rapid transit system with 42 stations has an estimated capacity of more than 600,000 passengers per day.

As of the mid-1980s, 99 per cent of the population had modern sanitation and 90 per cent of dwellings were connected to public sewers. Sewage was collected by over 2,000 kilometres of sewers, then moved by 122 pumping stations to six modern treatment plants for treatment and disposal through outfalls into the sea. There is daily collection of 4,500 tons of refuse, two thirds of which is disposed of by incineration and the remainder in sanitary land-fills, with plans to increase disposal by incineration to 85 per cent.

SINGAPORE

PLANNING ISSUES

In order to oversee the rapid growth and expansion of Singapore, the Government introduced in 1971 a long-range land use and transportation plan, known as the Concept Plan, which served to guide development and make the best possible use of the scarce land resources of the country. The concept included a "Ring Plan" with high-density housing, industries and urban centres to be located in a ring around the Central Catchment and linked by an efficient transportation network. The Concept Plan was responsible for the New Towns, Changi Airport, Mass Rapid Transit System, expressways and road network.

In an effort to address the issues precipitated by the rapid development, increasing population, economic prosperity and demand for higher living standards in Singapore, the Urban Redevelopment Authority released its Revised Concept Plan in 1991. The Plan strives to simultaneously preserve land for business, economic growth and housing; promote decentralization; enhance the transportation system; provide new and better housing; provide more leisure opportunities and protect its natural green areas. It proposes a new high-technology Downtown Core built around Marina Bay to establish Singapore even more firmly as an international business centre; the creation of four new regional centres or mini-cities complete with restaurants, shops, offices, and community and entertainment facilities, eventually serving regions with 800,000 population each; construction of luxurious business parks for high-technology and knowledge-intensive industries which would enable Singapore to remain in the forefront of research, development and implementation of state-of-the-art technology; an increase in the amount and variety of housing; expansion of its current coastline through reclamation and the creation of additional parks, gardens, beaches, and sports and recreational facilities; preservation of the environment, including its image as a tropical island as opposed to merely an urban city; and enhancement of the transportation system with the addition of new Metropolitan Rapid Transit System and light rail stations, a new above-ground light rail system which would link major urban centres in the north and east, more expressways, new semi-expressways, as well as ferries, bicycle trails and special pedestrian zones.

Development Guide Plans, which translate the Concept Plan into more detailed plans for local areas of Singapore, eventually become Master Plans which oversee growth in those local areas. The Government's sale of sites programme assists in the implementation of long-term plans by selling government land to the private sector, and ensuring that adequate land is available to support economic growth and to provide housing, business and social amenities. Careful planning and stipulation of conditions concerning types and intensity of development permitted on each site guide the development of Singapore along the lines of the Concept Plan. Planning and implementation is coordinated, with the Urban Redevelopment Authority working closely with various ministries and other government agencies and receiving input from the private sector. Steering committees are formed to coordinate the implementation of special development areas such as the Singapore Civic District, the Singapore River and the new Downtown. The Urban Redevelopment Authority is developing a nationwide computer-based geographic information system, called the Integrated Land Use System (ILUS) which will integrate data bases and information needs of all government agencies involved in land-use planning to allow quick access to information. The system will enable government agencies to enhance their productivity and to provide the public with more efficient service.

SOFIA
(Bulgaria)

Sofia is the capital of and the largest city in Bulgaria, and its major economic, political, scientific and cultural centre. Sofia was chosen as the capital when Bulgaria was separated from the Ottoman empire in 1879. By 1939, Sofia had a well-developed infrastructure, with good drainage, an adequate water and power supply and a tram system. The city served as the hub of the national railway network. Its main industrial activity was the processing of farm products. The city is the centre of the Greater Sofia Settlement System which incorporates 12 municipalities, 3 towns and 34 villages. It is also the centre of Sofia district.

Demographic Characteristics

During the period 1880-1910, the population of Sofia increased from 20,000 to 102,000. Migration from other Bulgarian towns accounted for majority of this population growth. By 1926, the population of Sofia had increased to 230,000, largely as a result of in-migration from rural areas and an influx of refugees. The population of the Sofia urban agglomeration increased from 547,000 in 1950 to 1.4 million in 1995. The average annual rate of population growth declined from 2.1 per cent during 1975-1990 to 1.1 per cent in 1990-1995.

Economy

At the end of the Second World War, Bulgaria became a socialist state which gave high priority to industrial development, substantially increasing migration into the city. Currently, Sofia is the main industrial centre of Bulgaria, containing about 20 per cent of the its industry. Over 50 per cent of the city workers are employed in industry and transportation. Major industries include engineering, metallurgy, food processing, printing and the manufacture of textiles and clothing. Other industries produce rubber, footwear, furniture and chemicals.

Infrastructure and Social Services

In the 1950s, planners of Sofia conformed to the socialist doctrine of centring residential areas and services around industrial plants. By the 1960s, the emphasis shifted to separating heavy industries from places of residence. The older section of the city has winding, narrow streets with small houses that are packed closely together. The more modern sections of Sofia have wide avenues and high-rise apartment buildings, which accommodate most of the city residents. To accommodate new migrants, several apartment buildings and shopping facilities have been built in the suburban areas. Housing, however, remains a major problem, and qualified households sometimes wait for 5-10 years for an apartment. Problems in the construction of new housing are related to the shortage of skilled labour.

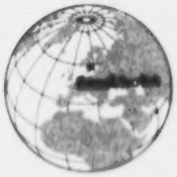
As of 1986, most elementary schools in Sofia (and other large towns) operated on double shifts. The major means of local transportation in Sofia are tramways, trolleybuses and buses.

Public health is still a state responsibility, but since 1991 physicians have been allowed to have private practices, and this type of medicine is becoming more popular. The city council of Sofia has a public health department, which administers funds for many hospitals and clinics in the city and reimburses pharmacies for prescription medicines. In the transition from a centralized system to a market economy, changes in the health- care system are under way; they include the creation of health insurance organizations, physicians' professional unions and employer-funded health care. The State continues to provide support for the care of the unemployed, single mothers, invalids, the elderly and the poor.

Planning Issues

Rapid population growth in the large cities of Bulgaria, such as Sofia, has resulted in problems in regard to the provision of housing and other services. In 1961, a master plan was put into law, whose principal objective was to manage, mainly through zoning regulations, the rapid growth of Sofia. Another objective was to preserve green spaces through wedges of parkland radiating from the city centre to the periphery. In 1966, the central Government enacted legislation to limit migration into Sofia to individuals with special technical skills in administration, industry or research. In 1981, the authorities placed restrictions on permanent migration to large cities in Bulgaria, including Sofia. These restrictions applied to non-motivated moves where there was no reason to apply for citizenship in the city. Examples of motives for moving included changing place of work, education, marriage and usage of health-care services. Some migrants were offered temporary citizenship which could eventually be changed to permanent status.

STOCKHOLM
(Sweden)



Stockholm, the capital of and the largest city in Sweden, is located at the intersection of Lake Malar and Saltsjon, an arm of the Baltic Sea, opposite the Gulf of Finland. The central area is built on 14 islands that are linked together by some 50 bridges, hence Stockholm is often referred to as the "Venice of the North" or the "City on the Water". Stockholm was founded over 700 years ago and was largely built by the Swedish ruler Birger Jarl. It is the cultural, educational, industrial, financial and retail centre of Sweden, as well as the second largest port.

DEMOGRAPHIC CHARACTERISTICS

The city of Stockholm covers an area of roughly 216 square kilometres, of which some 188 square kilometres are land and 18 square kilometres are water, and has a population density of 3,601 per square kilometre. The city population grew from 342,323 in 1910 to 744,143 in 1950, subsequently declining to 740,486 in 1970 and to 674,452 in 1990.

The metropolitan area of Greater Stockholm includes the city of Stockholm and 21 other municipalities, which, along with an additional three municipalities, comprises the county of Stockholm. Majority of the population of metropolitan Stockholm live in the 21 suburban municipalities surrounding the city. The urban agglomeration of Stockholm had an estimated population of 1.5 million in 1995, with 21.2 per cent of the urban population of Sweden residing in the region. The population of Stockholm is expected to reach 1.6 million by the year 2010.

ECONOMY

Stockholm is the leading industrial centre in Sweden. Among the important industries are metal and machine manufacturing, paper and printing, foodstuffs and chemicals. The city also serves as an important retail centre. Many of its largest corporations have their headquarters in Stockholm, and a majority of the accounting, advertising, publishing, printing, travel and industrial research firms in the country are located in the city. Stockholm is also the financial centre of Sweden, important in the fields of banking, insurance and investment, as well as the heart of the its foreign trade operations.

In 1989, 85.4 per cent of the population aged 20-64 in the county of Stockholm were economically active, with the majority in services (37.3 per cent); commerce (17.8 per cent); finance, insurance, real estate and business services (14.3 per cent); and manufacturing (12.6 per cent).

INFRASTRUCTURE AND SOCIAL SERVICES

The original city centre is Gamla Stan, or the Old Town, whose buildings date back to the sixteenth and seventeenth centuries. This area, which has retained its medieval street pattern and its typically narrow streets, has art galleries, museums, shops and restaurants, and is also the site of the Cathedral, a 700-year old monastery church containing the graves of Swedish kings, the Royal Palace, government offices, the House of Lords, and the Stock Exchange. Fire destroyed large parts of the city in the eighteenth century, and stone buildings were constructed to replace the old wooden structures. The growth pattern of the Stockholm metropolitan region reveals built-up areas radiating outward in the form of a star. Greater Stockholm is surrounded by forests, lakes and natural reserves, and there are many parks and gardens in the city itself.

Housing standards in the city of Stockholm are generally high. Stockholm has a large proportion of small flats; in the city centre, 70 per cent of flats consist of two rooms and a kitchen or less, while in the suburbs, the proportion is 50 per cent. Roughly one third of persons living in flats have private right of tenancy. Public housing enterprises own approximately 25 per cent of the total number of flats. As migrants to Stockholm continue to create demand for housing, the city council strives to meet their needs by constructing new flats. Municipalities are responsible for housing, despite the fact that there is a private housing market. Almost all housing construction is financed by state loans, and there are housing allowances for low-income households as well as households with many children.

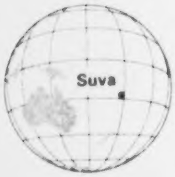
Two water works provide Stockholm and 10 neighbouring areas with high-quality drinking water which is distributed through a system of ducts nearly 1,800 kilometres long, with eight reservoirs and over 30 pressure increasing stations. Three sewage purification plants purify water and treat sewage. The sewerage system has approximately 2,490 kilometres of ducts, over 150 pumping stations, and 10 "levelling cisterns" for storage. Sludge is used to fertilize the fields, gas from the sewage plants is used for home heating and purified sewage is used to heat Stockholm Energy pumping stations. Energy production in Stockholm seeks to ensure maximum use of fuel and minimize harmful effects on the environment. The city has adequate supplies of electric power, being sole or part owner of hydroelectric plants in the northern part of the country, and sharing the atomic power plants at Forsmark and Oskarshamn.

In regard to environmental pollution, the construction of sewage treatment plants has improved the quality of water, making swimming and fishing possible once again near the city centre. District heating, produced partly by electric pumping stations and partly by oil, coal and garbage as fuel, has cut down on air pollution; sulphur dioxide emissions are currently one fifth the level that there were 20 years ago. However, automobile emissions continue to pose serious pollution threats.

Stockholm has an extensive public transportation network consisting of subways (with some 100 stations) and buses. Approximately 50 per cent of all journeys to work are made by public transportation. A large increase in vehicular traffic in recent years has resulted in greater pollution and congestion on the streets. Among the steps being taken to alleviate these problems are an increase in the accessibility of buses and the enlargement of the cycle network. Air transportation is provided by Aarlanda Airport which serves international passengers, and Bromma Airport which handles domestic and charter flights.

In addition to social welfare services for the sick, the unemployed and others in need of financial assistance, Stockholm also provides child care and social services for the aged. Approximately 70,000 junior and senior pupils are enrolled in the Stockholm school system, which is based on nine-year compulsory schooling. Approximately 30,000 students attend adult education courses and some 3,000 immigrants are enrolled in classes offering basic Swedish. The Leisure Services Board offers playground activities for younger children and administers leisure centres and sports grounds for older children and adolescents.

SUVA
(Fiji)



Suva, the capital of Fiji, lies on Suva Point between the mouth of the Rewa River on the east and Suva Harbour on the west, on a peninsula on the south-eastern coast of Viti Levu, the main island of the country. In Fijian, the word "suva" means "a pile of stones used to mark a boundary". One of the largest of the South Sea island towns, Suva serves as the chief port and commercial centre in the South Pacific. Suva owes its origins to its ample harbour and its proximity to the Rewa River delta, coupled with a large area of land suitable for the establishment of a city. This area had been part of the estate of Bau, the dominant power at the time of cession to Britain in 1874.

DEMOGRAPHIC CHARACTERISTICS

The population of Suva grew from 54,157 in 1966, to 63,628 in 1976; by 1986, the population census of Fiji enumerated 69,665 inhabitants in Suva, which comprised 51 per cent of the total urban population of Fiji, and established the dominance of the city in the urban hierarchy of the country. Suva experienced a decline in population growth from 1.6 per cent per annum during the intercensal period 1966-1976, to 0.9 per cent per annum during the intercensal period 1976-1986. Part of this decline, however, is attributed to changes in urban boundaries; for example, Lami, which was part of the Suva urban area in the 1976 census, was classified as a separate town in the 1986 census.

The 1986 population of Suva was 38.8 per cent Fijian, 46.5 per cent of Indian and 14.7 per cent other ethnic origin. Indeed, Suva is a mixture of half a dozen races and even more languages. The population was almost evenly divided between the sexes: males accounted for 49.8 per cent of the population, and females for 50.2 per cent. Adolescents under the age of 15 comprised 33.3 per cent of the population; persons aged 50 years or over comprised 10.3 per cent.

The United Nations *1994 Revision* placed the population of the urban agglomeration of Suva in 1990 at 151,000.

Suva has traditionally been the main centre of attraction for migrants in Fiji, drawing nearly one half of all lifetime rural-urban migrants and 40 per cent of more recent (post-1981) rural-urban migrants. Suva was the destination for some 53 per cent of Fijian and 36 per cent of Indian lifetime rural-urban migrants, and 47 per cent of Fijian and 31 per cent of Indian recent rural-urban migrants. However, there are signs that the attraction to Suva, although still overwhelming, is slowly decreasing: the share of the city in the most recent (post-1981) migrants is lower than its share of lifetime migrants. Many of the recent rural-urban migrants to Suva are settling in the peri-urban areas rather than in the city proper.

Suva also accounts for over one third of all urban-rural migration, or return migration, to the rural areas. Almost 18 per cent of persons born in Suva had migrated to rural areas by 1986 (34.4 per cent of Fijians and 9.4 per cent of Indians), while 10.0 per cent of the total resident population of Suva migrated to rural areas between 1981 and 1986 (20.8 per cent of Fijians and 4.4 per cent of Indians). The large degree of urban-rural migration does not necessarily herald a slowdown in the urbanization process—in some cases, it is an indication of a tendency to move from high-cost urban centres to adjacent rural areas, a process facilitated by the road transportation system.

ECONOMY

Suva is the chief port and commercial centre of Fiji. Suva Harbour is a regular stop for trans-Pacific shipping. As the capital, Suva is responsible for a major share of the manufacturing, wholesale and retail industries of the country. The economic activities of the city include tourism (encouraged by the status of Suva as a free port), and light manufacturing such as cigarette making, soap making, copra crushing, baking and brewing. According to the 1989 annual employment survey, the 23,492 paid workers in Suva were employed in the following industries: 1.4 per cent in agriculture, forestry and fishing; 0.3 per cent in mining and quarrying; 29.0 per cent in manufacturing; 1.3 per cent in electricity, gas and water; 5.0 per cent in construction; 23.4 per cent in wholesale and retail trade; 8.7 per cent in transport and communication; 14.0 per cent in financial and business services; and 16.9 per cent in community, social and personal services.

INFRASTRUCTURE AND SOCIAL SERVICES

Suva began as a late Victorian village with frame houses and stores along the beach front. It remained a quaint town for the first 40 years of its existence; however, the past two decades have seen the transformation of Suva. Currently, Suva is a bustling city with a population of close to 70,000. There are many reminders of the past, including the shops and the small wooden bungalows in the old part of the city. The heart of Suva is dominated by municipal markets, forming a sprawling complex near the waterfront, where vendors sell a variety of foods, artifacts and handicrafts.

Several important institutions of higher learning are located in Suva, including the Fiji School of Medicine and Nursing, the University of the South Pacific, the Fiji College of Agriculture, a teachers' training college and an institute of technology. Government House is the official residence of the President of the Republic of Fiji; old Parliament buildings soon to be replaced by a new complex are located nearby. Albert Park, site of official functions and sporting activities, are also nearby. The Fiji Museum, which houses notable historical and ethnological collections, is considered one of the best in the South Pacific.

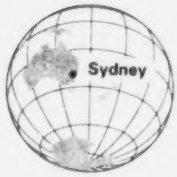
Fiji has a long tradition of self-help housing, which has continued in the urban areas with the expansion of "spontaneous settlements" that are not all squatter settlements in the strictest sense. The private sector, the Government Housing Authority, the church and other voluntary agencies also care for the poor. The number of squatter settlements in the four wards of the Suva area administered by the Suva City Council increased by 27 per cent between 1978 and 1983.

The expanding urban population of Fiji has placed increasing pressures on basic services; indeed, sewage and drainage services around the sprawling suburbs of Suva are barely keeping pace with demand. Moreover, traffic congestion, especially between Suva and Nausori, is becoming a serious problem.

PLANNING ISSUES

Among the most direct policies that affect spatial distribution of population are land settlement schemes aimed at channeling migration to select rural areas, such as the one at Seaqaqa on Vanua Levu. Such policies, however, have achieved only moderate success in retaining population in the rural areas. Other more indirect measures include income policies to keep urban wage rates from rising and thus narrowing the rural-urban income gap, and price support for agricultural products to raise rural incomes. Government measures to develop rural, inland and inaccessible regions focus on improving the distribution of goods and services, expanding communication networks and providing electricity, running water and improved housing. Government offices also have been relocated and Government administration has been decentralized in a further effort to curb rural-urban migration.

SYDNEY
(Australia)



Sydney, Australia's largest and oldest urban centre, plays an important role in finance and commerce. Sydney is also one of the most important ports in the South Pacific. The city population is scattered over a large area, with more than 20 per cent of the population of Australia living in Sydney. In 1985, the central city had an area of 24 square kilometres, with a population density of 3,318 per square kilometre, while the metropolitan area sprawled over an area of 12,407 square kilometres, with a population density of 271. The development of the Sydney region is constrained by a number of physical obstacles, such as steepness of land, liability to flooding, water catchments, parks and other recreational areas, coastal protection zones and areas of significant scenic beauty or cultural/historical significance.

DEMOGRAPHIC CHARACTERISTICS

Sydney had a population of less than 60,000 in 1850, which increased to about 400,000 by 1890. The population of Sidney urban agglomeration grew from 1.7 million in 1950 to 3.6 million in 1995. It is expected that the population of Sydney will grow to 3.9 million by the year 2010. During 1950-1975, the average annual rate of population growth was above 2 per cent, largely as a result of overseas migration. Subsequently, however, the rate of growth declined, reaching 0.4 per cent during 1990-1995.

In-migration to Sydney from other regions of the country is relatively small and, in fact, the city is experiencing a net loss of internal migrants. Overseas migration, however, remains high. The rate of population growth varies within the agglomeration. Inner and middle suburbs are experiencing a decline in population, while areas on the periphery are experiencing rapid population growth. Ageing of the population is expected to produce problems in the future as the demand for appropriate services and facilities increases.

ECONOMY

Sydney is an important industrial centre and accounts for about one third of employment in finance in Australia. The main industries are in consumer goods production. Other industries include engineering, railway and transportation equipment, motor vehicles, electronics, chemicals, plastics and refined petroleum products. Rich cattle and sheep-raising areas in New South Wales have made Sydney an important livestock and wool market. Major exports include coal, meat, wheat and wool. Sydney is also a city of government, commerce and entertainment. In 1985, over 92 per cent of the economically active population of Sydney was employed, 58 per cent in services and 17.5 per cent in industries (including mining).

INFRASTRUCTURE AND SOCIAL SERVICES

Housing standards are generally high in Sydney. Houses are large and generally constructed of durable materials. The Government has promoted home-ownership through financial incentives and subsidies, and most dwellings are now owner occupied. Some low-income groups have access to public housing, although the construction of such dwellings has been reduced due to financial constraints and rising costs. The number of squatter settlements are relatively low in Sydney. A widespread problem is that many low-income households must pay a disproportionate amount of their income in order to obtain satisfactory housing.

Average water consumption is high in Sydney, and almost all households within the built-up areas have a piped water supply. Refuse collection is provided to most premises and over 90 per cent of households are connected to the sewerage network. The Metropolitan Waste Disposal Authority collects bulk waste for controlled landfill or incineration.

In 1971, about 70 per cent of all trips in Sydney were by private automobile, with the rest by trains or buses. The decentralization of employment has increased the importance of cars for cross-suburban travel. As of 1986, over 80 per cent of households had at least one car, and about two thirds of the workforce in Sydney travelled to work by car. The high rate of private automobile use has resulted in severe traffic congestion which is aggravated by the narrowness of the streets. Nevertheless, public transportation plays a major role in movement to and from the central business district. As of 1986, over 80 per cent of work trips to the central business district were made by public transport. The railway operates on a network of routes radiating up to 55 kilometres from an underground ring beneath the central business district. Buses operate both within the inner city (by the Urban Transit Authority) and the suburbs (by private operators). Increased car ownership has exacerbated air pollution through exhaust emissions from over a million vehicles. Industrial pollutants are another major source of environmental pollution.

The Darling Harbour Development project, a $1.8 billion joint Government and private enterprise venture to turn 55 hectares of neglected harbour space west of the central business district into a tourist attraction, involved the construction of convention and exhibit centres, parks and gardens, a festival market place, a Discovery Village, and an international hotel/casino. The complex of carparks and hotels, markets and gardens, museums and monorails doubled and even tripled property values adjacent to Darling Harbour even before the official completion of the entire project in 1988. As the major property holder, the Government gains from rentals and leases, profit-sharing arrangements, property taxes, exhibition and convention centres, carparks and the monorail which links the harbour complex with the central business district.

PLANNING ISSUES

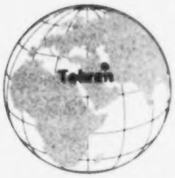
In 1948, the County of Cumberland Scheme (CCS) provided Sydney with a green belt to contain its population within prescribed limits. The plan also consigned the overflow population to satellite towns and villages. CCS proposed a hierarchy of centres ranging from neighbourhood centres to the county centre. The plan encouraged industrial decentralization by restricting the availability of industrial land in inner areas and making it available further from the core.

In 1968, the Sydney Region Outline Plan (SROP) identified land for urban development until the year 2000. SROP projected a population of 5 million by the end of the century and identified huge areas of non-urban land on the fringes for urban development of Sydney. This was, however, a 20 per cent overestimation, which led to low-density development in the new suburbs and lack of development of large amounts of suitably zoned and serviced urban land. SROP promoted the comprehensive replanning of the metropolitan city centre, called for a wider and more balanced distribution of commercial activity so that over-concentration of employment in the metropolitan centre could be avoided, and also proposed industrial areas in new growth centres.

Both CCS and SROP sought to achieve a more even distribution of employment to shorten the average journey to work, and to reduce congestion and development pressures at the core. In 1980, a review of SROP stated that Sydney should maintain its role as a major international and commercial centre and port. The review of SROP also aimed at influencing urban land prices to achieve reasonable housing costs, especially for low-income households, influencing the availability of sites for medium-density housing so as to provide a real choice for all income groups, and managing urban growth to obtain the most effective use of existing resources.

The ability of Sydney planners to influence population growth and change has been complicated by the phenomenon of immigration. Recent immigration data show that about one third of all immigrants to Australia have located in Sydney. It is estimated that for every six or seven migrants to Australia, one additional dwelling unit is required in Sydney. However, policy makers in Sydney have had little influence over immigration. Consequently, their ability to influence population levels in the Sydney region has been limited.

TEHRAN
(Islamic Republic of Iran)



Tehran, the capital of the Islamic Republic of Iran and of the province Tehran Ostan, is located in the north-central part of the country, about 105 kilometres south of the Caspian sea. Tehran was a small city that became the capital in 1788. It then had a population of 15,000, which increased to 60,000 by the middle of the nineteenth century. Since then, the population of Tehran has steadily increased due to the growth of government administration and industrial firms and in-migration of people from other cities and rural areas to seek employment. Between 1940 and 1956, the area of Tehran expanded three times. Due to industrial concentration, new industries have moved to industrial towns around Tehran.

DEMOGRAPHIC CHARACTERISTICS

The first census of Tehran in 1869 enumerated a population of 155,000, whereas the census of 1939-1940 enumerated a population of 400,000. The population of its urban agglomeration grew from 1.04 million in 1950 to an estimated 6.8 million in 1995. The average annual rate of population growth over the period 1950-1975 fluctuated between 5.9 and 5.2 per cent. After 1975, however, there was a decline in the average rate of growth which, by 1995, had dropped to about 1.5 per cent.

In 1986, the province of Tehran Ostan had 17.6 per cent of the national population, 40 per cent of which was aged 0-14. The sex ratio was 106 and 38.9 per cent of the population were in-migrants. For the central city, population density increased from 10,653 per square kilometre in 1986 to 12,279 in 1988.

ECONOMY

Tehran is an important industrial and commercial centre. As of 1988, more than half of the manufactured goods of the Islamic Republic of Iran were produced in Tehran. Industrial plants manufacture such items as textiles, cement, sugar, china and pottery, electrical equipment and pharmaceuticals. There is also an automobile assembly industry. Government administration is an important source of employment. According to the 1986 census, 45.6 per cent of wage- and salary earners were in the public sector.

Migration has played an important role in the growth of Tehran. The main factors responsible for attracting migrants to the city include employment opportunities in various economic sectors such as manufacturing, construction, services, trade, and cultural and educational activities. After the 1979 revolution and during the war between the Islamic Republic of Iran and Iraq, industrial development and construction works in the city slowed considerably and resulted in lower in-migration. The economy of the city is dominated by industry, commerce and services. The distribution of the employed population among various activities is as follows: construction, 8 per cent; manufacturing, 21 per cent; wholesale and retail trade, 13 per cent; transportation and communications, 8.8 per cent; and services, 39.7 per cent.

INFRASTRUCTURE AND SOCIAL SERVICES

In 1986, Tehran (central city) had more than 1 million dwelling units. In 1989, over 48,000 new dwelling units were constructed. According to the 1986 census, Tehran Ostan had an average of 4.6 persons per household. About 93 per cent of children aged 6-10 were attending school. Some 97.5 per cent of households had electricity, 92.5 per cent had piped water and 10.7 per cent had piped gas. The rapid growth of the city has resulted in housing shortages, pollution and traffic congestion. There was an attempt to develop a separate new town in Tehran-Pars, which is located 12 kilometres east of central Tehran. However, with respect to the availability of shopping centres, Tehran-Pars is not self-sufficient and its inhabitants had to rely largely on Tehran for shopping. With respect to the improvement of living conditions in urban areas, deteriorating areas in the capital have been identified and are being replaced by a number of institutes of art and culture.

In recent years, air pollution in Tehran has emerged as a major area of concern. According to the Department of Environment, urban transport is responsible for 60-70 per cent of the emissions causing air pollution in the greater Tehran area. The majority of these emissions are produced by automobiles. Urban buses and a large number of motorcycles also contribute to the problem. Tehran Municipality is actively pursuing the development of alternate and less polluting transport modes such as metro and trolley buses. The Municipality has also undertaken a number of initiatives to improve both physical infrastructure and the management of urban transport operations. In 1992, an Air Pollution Control Centre was established in the city to develop an emissions inventory which would be used for the investigation of policy options. The authorities are planning to convert the fuel used by taxis and buses with the objective of eliminating particulates and SO2 emissions. About half the taxis have complied with the new specifications, the diesel engines of the urban bus fleet are also being considered for conversion. The municipality also publishes a newspaper with articles on environmental issues to raise public awareness regarding the sources and effects of air pollution.

In order to alleviate the increasing problems of urban transport and associated air pollution, the Municipality of Tehran has initiated a number of activities. Based on the existing road network, the authorities consider a trolley bus system with a route of about 150 kilometres feasible. The first phase of the trolley bus system has already been implemented and is in operation over 7 kilometres of a congested corridor. Tehran has about 60 kilometres of dedicated bus lanes physically separated from other traffic lanes, greatly increasing bus speeds. Urban bus services in the city recently have increased by 35 per cent. In order to manage traffic growth in Tehran, the city centre was designated a restricted traffic area, covering about 23 square kilometres. This area is the focus of current and planned traffic management schemes, and only about 10 per cent of vehicles (Government-owned vehicles, physicians' cars, taxis and other public vehicles) have access to this area during restricted hours. In addition, truck restrictions apply for about half the city. Concerning parking, about four major multi-storey parking structures either have been built or are under construction. The metro system is expected to commence operations in about three years when the first phase will be completed. The metro will be powered by a gas fired power plant and it is expected that ridership will eventually reach 2.5 million.

In order to address safety and emission issues, an extensive inspection and maintenance of in-use vehicles programme for private passenger cars and light duty trucks has been started in Tehran. In 1991, a Traffic Control Centre was established to develop a computerized traffic control system throughout the city. Currently, the Centre is developing a real time traffic signal coordination for about 250 intersections in Tehran. This traffic control system will be integrated with the air quality monitoring system, facilitating the control of air quality through limiting access to some areas.

One of the problems in Tehran is the inability of water supply to meet the needs of the expanding city. The demand for water has generally outstripped supply. Another problem is related to the provision of sewage facilities. Most human waste is discharged untreated into the ground or watercourse, increasing the hazards of contamination.

PLANNING ISSUES

The Government's early concern for curbing the growth of Tehran was reflected in the Plan of 1968-1973 which recommended rapid decentralization and creation of conditions to attract investment and skilled personnel to other regions. It also called for reducing administrative congestion in Tehran and delegating functions and responsibilities to local administrative authorities. At the beginning of the Fifth Plan (1973-1978), it was again suggested that more than 50 per cent of Government employees in the capital should be relocated to the provincial cities.

The Government continues to seek to curb the further growth of Tehran. There is a plan to ban the establishment of new productive and service activities with a transregional market, except for research activities and modern high-technology strategic industries. To facilitate decentralization from Tehran, the plan envisages equipping a selected number of large cities to serve as regional centres and to increasingly perform functions currently being carried out in Tehran, especially in the field of higher services (e.g., higher education, specialist hospitals, financial services, repair and maintenance services). The goals of the plan include enhancement of small and intermediate cities in order to absorb the surplus population of the larger cities, strengthening facilities in small towns to serve as links between rural and urban areas, increasing the service potential of small towns with the aim of reducing rural-urban migration and promoting more homogeneous development of rural and urban areas through narrowing of existing gap in regard to access to social and commercial services.

TEL AVIV
(Israel)

Tel Aviv, the largest city in Israel, was established in 1950 with the incorporation of the ancient port of Jaffa with its former suburb, Tel Aviv. It is believed that Jaffa has existed since the beginning of the second millenium B.C. As of 1898, Jaffa had a population of 35,000. In 1909, a suburb, called Achuzat-Bayit, was established which was soon thereafter renamed Tel Aviv. By 1931, it had surpassed Jaffa in population size. After the Balfour Declaration and the establishment of the British mandate over Palestine (1923-1948), Jewish immigration to the region increased. There were also sharp increases in population after the Nazis rise to power in Germany in the early 1930s, and following the creation of the State of Israel in 1948. As of 1950, Tel Aviv had become the main business, communications and cultural centre of Israel.

DEMOGRAPHIC CHARACTERISTICS

The population of Tel Aviv urban agglomeration grew from 418,000 in 1950 to 1.9 million in 1995. The average annual rate of population growth gradually decreased from 5.7 per cent during 1950-1960, to 1.4 per cent during 1990-1995. In 1988, Tel Aviv district had an area of 170 square kilometres, with a population density of 6,072 per square kilomtre. In 1987, Tel Aviv district had a crude birth rate of 17.8 per 1,000 population, a crude death rate of 9.3 per 1,000, and an infant mortality rate of 8.3 per 1,000 live births. As of 1984, about 50 per cent of the population growth of Tel Aviv connurbation was due to natural increase and 20-40 per cent was due to migration from within Israel.

The periphery of the Tel Aviv urban core is an optimal location for internal migrants owing to its low housing costs and metropolitan amenities. While the population of the central city and inner suburbs has been declining, the population of outer-ring suburbs and the surrounding towns has been increasing. At the beginning of the 1960s, the Tel Aviv urban core had a positive net migration balance. Towards the end of the 1960s, out-migration was almost equal to in-migration. In the mid-1970s, the Tel Aviv core was losing population while its periphery was the main recipient of in-migration. Since 1964, the core area of metropolitan Tel Aviv, the city of Tel Aviv-Jaffa, has experienced an absolute population decline: the number of inhabitants declined from 394,400 in 1964 to 330,400 in 1983, a decrease of 16.2 per cent. In recent years, the rate of decline has been between 1 and 1.5 per cent annually. Since the mid-1960s, the periphery of Tel Aviv has had a positive net migration balance.

ECONOMY

Over one half of the industrial plants in Israel are located in the Tel Aviv metropolitan area, which is also a national retail centre. Major industries include textiles and clothing, food and tobacco, metal and engineering, furniture and wood products, printing and publishing, and electric and electronic instruments. The share of Tel Aviv in national employment has declined from 26.3 per cent of Israeli workers in 1967 to 21.4 per cent in 1976, and to 18.7 per cent in 1982 (a relatively low figure given that in 1982, 38.5 per cent of the Israeli population resided in greater Tel Aviv).

According to the 1983 census, about 33 per cent of the employed population aged 15 or over in the Tel Aviv district was employed in finance and trade, and 25 per cent were working in public services. Over the years, its share of industrial employment has declined: in 1970 about 26 per cent of its employed population worked in industry, declining to about 19 per cent in 1982, which was lower than the national average of about 23 per cent.

INFRASTRUCTURE AND SOCIAL SERVICES

According to the 1983 census, there were over 128,000 households in the Tel Aviv-Jaffa conurbation, with an average of 2.5 persons per household. There is a severe shortage of housing in Tel Aviv. Housing purchase costs are generally high and beyond the financial capacity of most residents. The Government subsidizes housing rents and social services. A national insurance programme provides all citizens with medical care. In 1983, about 42 per cent of the employed population aged 15 or over used public transportation, and almost 38 per cent had private cars.

PLANNING ISSUES

The Government has a policy of dispersing population to specified regions and reducing regional inequalities through the creation of new towns and land colonization schemes. The policy is aimed at strengthening the population and the economic base of peripheral regions in the north and south of the country and limiting the growth of the metropolitan areas in the core regions of the coastal plain. This has been achieved mainly through freezing agricultural land and preventing it from being annexed to urban areas. In order to control the growth of Tel Aviv, the Government has banned the construction of immigrant housing and the conversion of agricultural land for urban uses in metropolitan areas.

The Government has adopted a number of measures to influence migration between the core and periphery. These measures include the provision of more affordable housing in the peripheral regions, in contrast to the high cost of housing in the core area. A detailed scheme of spatially differentiated mortgage rates and low interest loans has been established. The provision of public services (particularly education) and welfare programmes has also been spatially selective. Special allowances are granted to professionals such as physicians, teachers and social workers when they move to a settlement in a peripheral area. In order to create employment for the population in the peripheral areas, tax incentives and rapid depreciation allowances for equipment are granted to industrialists. Other measures include the provision of infrastructure, grants and low-interest loans for establishing factories in settlements in the periphery, and subsidizing transportation costs in peripheral areas.

TIANJIN
(China)

Tianjin is the third most populous city in China, after Shanghai and Beijing. It is located on the Hai He River, about 50 kilometres up river from the coast and 130 kilometres south-east of the national capital of Beijing. Tianjin emerged as a trading port in the twelfth century, when grain storage warehouses and port facilities were built. In the fifteenth century, the Ming moved their capital from Nanjing to Beijing, and Tianjin became a walled city and an important military base for protecting the capital.

Tianjin has long been at the crossroads of major events in Chinese history. Following the Anglo-French war against China in 1856-1858, the British and French established concessions in Tianjin. Eventually, Tianjin had more foreign concessions than any other city in China: nine foreign powers were represented there by 1902. The Boxer Incident in 1905 led to the occupation of the city by Western forces and to the destruction of the old city wall. Tianjin was occupied during 1937-1945 by the Japanese, who constructed Tanggu New Harbor as a nearby deep-water seaport to supplement the river port facilities of Tianjin. Its hinterland is vast, extending over 1 million square kilometres of northern China and including parts of the landlocked country of Mongolia.

DEMOGRAPHIC CHARACTERISTICS

Tianjin was the second largest city in China in 1937, with a population of more than 1 million. The population grew to 2.4 million in 1950 and to 3.6 million in 1960. The average annual rate of population growth declined from 4.2 per cent during the 1950s to 3.3 per cent between 1965 and 1980. It fell further to 2.3 per cent per annum during 1980-1985, then increased to 2.9 per cent in 1990-1995. The United Nations estimated that the population of Tianjin in 1995 was 10.7 million.

Tianjin is one of three centrally administered municipalities in China, the other two being Beijing and Shanghai. The municipality includes six urban districts in the central city, as well as three waterfront districts, four suburban districts and five counties. The total area of the municipality is 11,305 square kilometers. The central city had an area of 154 square kilometres and a population of 3.6 million in 1990; its population density was 23,518 per square kilometre.

The dramatic demographic changes in China during the past two decades are reflected in the vital rates in Tianjin. Since about 1970, as a result of a vigorous national family planning programme, fertility has declined rapidly. The crude birth rate in 1990 was 10.1, and the crude death rate was 6.7, resulting in a rate of natural increase of 0.3 per cent per annum. The infant mortality rate in 1985 was 11.7 deaths per 1,000 live births. Life expectancy was 72.4 years for males and 74.4 years for females, an increase of about 11 years since 1965. Average household size in 1990 was 3.2 persons.

Official figures on migrant flows into and out of the city show only a small trickle of migrants to Tianjin, but the numbers report only officially registered migrants. During the past two decades, substantial numbers of illegal migrants have moved to the major cities of China, forming a large "floating population" and contributing greatly to urban growth.

ECONOMY

Before the Sino-Japanese War of 1894-1895, the economy of Tianjin was based on trading and industries related to trading--packing, machinery and shipyards. By the early twentieth century, railway lines had been extended into the hinterland and were transporting agricultural products, such as cotton, leather and woolen goods, to Tianjin for shipment. Development of the modern industrial sector began around the time of the First World War; industries included spinning, looming, chemicals, flour milling, hide processing, iron and steel manufacture and shipbuilding.

The industrial structure in Tianjin in the 1990s is relatively balanced between light and heavy industry. The important chemical and pharmaceutical industries are being diversified to include the processing of marine chemicals and petrochemicals. Other industries in Tianjin are textiles, garments, metallurgy, medical technology, food processing, machine tools, electronics and motor vehicles. Tianjin exports a wide variety of products, including grain, livestock, textiles, light industrial products, machinery and chemicals. In 1964, oil was discovered at Dagang, about 60 kilometres south-east of Tianjin; it is a valuable source of energy for its industry.

The labour force in Tianjin is concentrated in the secondary sector: about 64 per cent of the city workers are employed in industry. About 34 per cent work in the tertiary sector and only 1.5 per cent are listed as primary sector (agricultural) workers. The percentage of the labour force in the tertiary sector may be understated because many of those in the floating population of unregistered migrants find jobs in the service sector and are not reported in official statistics.

The port at Tianjin is the largest man-made harbour in China. In 1990 it handled 24.4 million tons of cargo, almost three times the cargo of 1970. Harbour facilities consist of the river port of Tianjin, which accommodates river traffic and shallow-draft vessels; the Tanggu New Port on the south side of the Hai He estuary, which has berths for medium-sized vessels; and the deep-water port of Singang, on the north side of the Hai He estuary. The economic prospects of the city have been enhanced by the establishment of the Economic and Technological Development Zone at Tanggu, which aims to attract foreign investment to develop industry.

INFRASTRUCTURE AND SOCIAL SERVICES

In 1976, a major earthquake, with its epicentre just 100 kilometres from Tianjin, struck the city and seriously damaged two thirds of all its buildings, including about 40 per cent of industrial buildings and 70 per cent of residential structures. Damage to basic infrastructure was extensive and thousands of people were left homeless. The devastation became an opportunity to rebuild the city with more substantial structures and a rational urban plan. The reconstructed Tianjin has a series of ring roads around the city with 14 radial roads leading to the centre. Greenbelt areas and residential suburbs occupy the space between the ring roads. Between 1981 and 1987, some 23 million square metres of new residential space was built. Even with this new construction, there is still a shortage of low- and middle-income housing, and even high-income housing is a problem.

Urban renewal projects included the restoration of many of the old foreign buildings in the former concession areas, in spite of objections from some residents who did not want to be reminded of the colonial past of the city. Tianjin is now virtually a museum of nineteenth-century European architecture, and the restored buildings have become a major tourist attraction.

Water supply has long been a serious problem in Tianjin. Not only was there a shortage of water, but the water was brackish and unpleasant to drink. A project to divert water from the Luan He River to Tianjin was completed in 1983, relieving the chronic water shortage in the city. About 75 per cent of Tianjin residents have piped water. Water treatment was greatly improved with the construction in 1984 at Jizhuanzi of the largest sewage treatment plant in China. One quarter of the city waste water is treated in a two-stage process, and the plant produces sludge for fertilizer and for generating methane gas, a fuel used for cooking.

Health and educational services have been developed extensively, and city administrators consider that adequate medical services and hospital facilities are available to the population. Nearly all eligible children are enrolled in primary school. There is an extensive network of nursery schools and the student/teacher ratios at all levels are low.

As an industrial centre, Tianjin has experienced increasing air pollution, particularly from sulphur dioxide emissions. The situation has been improved somewhat by moving the most polluting industries away from the centre of the city and by planting trees and building parks. The very high population density in central Tianjin, however, has made it difficult to find open space for parks.

TIANJIN

For a city with a population of nearly 10 million, Tianjin has a relatively minor problem with traffic congestion. This can be attributed both to the small number of vehicles in the city (fewer than 184,000 in 1989) and to the efficient design of the ring and radial road system, which facilitates traffic flows.

PLANNING ISSUES

As a centrally administered municipality, Tianjin enjoys a favoured administrative status and receives political attention and economic resources from the central Government. This was not the case in the past, however, when the urban policy of China focused on the development of Beijing. From 1949 to 1959, the economy stagnated under the shadow of Beijing. With the current policy of coastal development, Tianjin—with its balanced industrial structure, its wealth of natural resources, its modern port facilities and its location as the entry point to a region with 200 million people—is in a position to become a major economic centre on the western Pacific Rim and the point of modernization for the vast inland area of China.

TOKYO
(Japan)

Tokyo is a coastal city located centrally on Honshu, the largest island in Japan. Known as Edo until 1868, Tokyo has a long history. In 1457, Edo Castle was constructed and in 1603 it became the seat of the Tokugawa Shogunate. Under the Tokugawas, the city was constructed in order to take advantage of the natural waterways that serve as transportation canals. By the early 1700s, the population of Tokyo was estimated at 1.2 million, at a time when the population of London was about 650,000 and Paris was about 500,000. In 1868, with the overthrow of the Tokugawas and the beginning of the Meiji era, Edo became capital of Japan under a new name, Tokyo, which means "Capital of the East". Social turmoil at the time temporarily reduced the city population, but by 1889 the population had recovered to 1.4 million. The Tokyo-Yokohama metropolitan area includes Tokyo, the port city of Yokohama and the manufacturing centre of Kawasaki.

DEMOGRAPHIC CHARACTERISTICS

At the beginning of the Second World War, after intensive modernization, Tokyo had a population of 7.4 million, despite the Great Earthquake of 1923, which destroyed most of the downtown area, causing 100,000 deaths and injuries. By the end of the war, the population of the city had declined. During the period 1950-1970, the average annual rate of population growth of the urban agglomeration was above 4 per cent, which resulted in a more than doubling of the population within this period, from 6.9 million in 1950 to 16.5 million in 1970. Later, however, the rate of population growth declined to 2 per cent during 1975-1980 and to 1.4 per cent during 1980-1995. In 1995, the population of urban agglomeration was about 26.8 million. It is expected that the low rate of population growth will continue to decline in the future.

The population of Tokyo Metropolitan Region (TMR) was 28.7 million in 1980, of which 40 per cent were living in Tokyo Prefecture (TP). The population of TMR as a whole increased at an annual rate of 1.2 per cent between 1975 and 1980. During the same time period, however, there was a decrease in the population of the Special Wards area, which is the central area of TMR. The reason for the outflow from the central area is that the surrounding prefectures or cities now offer better living conditions.

ECONOMY

The manufacturing region of Tokyo-Kawasaki-Yokohama, called the Keihin Industrial Zone, is the major urban and industrial agglomeration in Japan. The Yokohama-Kawasaki district is an area of heavy industry producing chemicals, machinery, metallurgical products, ships and automobiles. Tokyo, on the other hand, has a concentration of light manufacturing, including textiles, toiletries and printing and publishing. Tokyo also produces goods which require a sizeable labour force, such as electrical products, cameras and automobiles. A large proportion of establishments are relatively small shops with fewer than 30 workers, most of them subcontracted to larger concerns.

Tokyo is a centre of wholesaling which draws goods from all over the country and abroad and distributes them to the surrounding areas. Tokyo is also the chief financial centre of Japan. Many domestic and international financial institutions and businesses are headquartered in the Tokyo central business district. Many institutions of national and regional government, offices of the local government and government corporations (such as telephone and telegraph corporations), are also located in Tokyo and are a major source of employment.

INFRASTRUCTURE AND SOCIAL SERVICES

Tokyo has no single central business district. Rather, the entire city is dotted with urban centres, usually located around railroad stations, where department stores, shops, hotels, office buildings, restaurants and often factories are also located. Less intensively developed neighbourhoods are located between these subcentres.

TOKYO

After the Second World War, housing supply in Tokyo was not adequate to meet the demand of the growing population. A large number of rental wooden row houses were built by private landowners. In the 1970s, there was a surge in the construction of multi-storey condominiums intended for sale. During the late 1980s, the high price of urban land became a major concern. As of 1990, the average price of a standard 75-square-metre condominium in Tokyo had risen to almost nine times the average annual household income of white collar workers.

The metropolitan area is spanned by a dense network of electric railways and subways, bus lines and motor highways. Buses play an important role in the suburban areas, while rapid transit, particularly subways, provide the main means of transportation. Rapid economic growth accelerated the construction of the expressway network. In 1980, there were 19 routes in the metropolitan region, with a total length of about 140 kilometres. Excessive congestion and long travelling time are among the major transportation problems of the city. Each day, the three central wards in Tokyo receive 1.6 million commuters, about 90 per cent of whom use the railways. During the rush hours, the number of passengers per car is 150 per cent of the design capacity. The commuting time of residents in the Tokyo Metropolitan Region is generally much longer than in the rest of Japan.

Water is supplied by aqueduct systems to the metropolitan area. Local waterworks and private industrial and residential systems supplement the municipal water supply. The main sources of water are the Tama and Tone-Edo rivers and three reservoirs. In order to meet increasing demand, additional dams have been built on the nearby rivers. Due to the pumping of groundwater for industrial purposes, the eastern lowland area is subsiding. As a means of controlling this process, the use of groundwater, which accounts for less than 10 per cent of the total supply, is being regulated. The bulk of power in Tokyo comes from thermal stations. Hydroelectric and atomic power stations provide additional electricity. Most of the metropolitan area is supplied with gas by the Tokyo Gas Company.

Rapid population growth in the Tokyo Metropolitan Region was accompanied by problems of sewage disposal, resulting in deterioration of water quality. The expansion of the sewerage system, however, has improved water quality. Since the 1960s, the volume of waste in the Special Wards area has increased. Most of the waste is either incinerated or used for landfilling in the port and hilly areas. Refuse recycling is being employed in order to save resources and reduce the volume of refuse.

PLANNING ISSUES

Since the end of the Second World War, a number of official plans for Tokyo have been announced but usually only partially implemented. In 1950, the Capital City Development Act provided for new parks, universities, an airport, extensions to the subway and improvements to the Port of Tokyo. Prompted by concerns that the population of Tokyo was becoming overly concentrated and too congested, the National Capital Region Development Law was enacted in 1956. It called for improvements in its highway network and 30 industrial satellite towns outside a 10-kilometre wide green belt. In practice, some aspects of the initial plan have been partially implemented, with a substantial reduction in the land area reserved for the greenbelt.

The Second Basic Plan for Tokyo, announced in 1968, projected a resident population of 33.1 million for the Capital Region by 1975. To reduce congestion and the concentration of population and establishments in the city, it called for the construction of new satellite towns, and establishment of another large university and industrial estates with large housing areas outside the city. An important new element was the encouragement of high-rise buildings to provide office space, although subsequent opposition to high-rise buildings has prevented their widespread construction.

The Third Basic Plan for Tokyo, announced in the late 1970s, emphasized autonomy of local communities within the Tokyo Metropolitan Region and autonomy of the metropolitan government from the central government. Periodically, there have been proposals to relocate the national capital away from Tokyo. The aim of all these proposals was to promote deconcentration and to reduce congestion, but none have come close to being implemented, as the relocation of the national Government would involve enormous costs. A long-range plan for Tokyo prefecture was drawn up in December 1982 and revised in November 1986. Among its goals was the development of a multiple core structure in which the functions of the city would be dispersed so that place of residence would be close to place of employment.

TORONTO
(Canada)

Toronto, which is the most populous metropolitan area in Canada, lies on the north-west shore of Lake Ontario. Metropolitan Toronto is a part of the Toronto region, which has 15 per cent of the population of the country (1988). The Toronto region has the major concentration of industrial jobs in Canada and is viewed as the commercial and financial centre of the country. Metropolitan Toronto, which extends over an area of 632 square kilometres, consists of the city of Toronto, which covers an area of 98 square kilometres, and the surrounding suburban municipalities. The central area, downtown Toronto, is the predominant regional centre consisting of major government, financial, medical and educational services. City planning in Toronto has emphasized multi-centered urban structures, leading to the development of major and intermediate centres.

DEMOGRAPHIC CHARACTERISTICS

The population of the urban agglomeration of Toronto grew from 1.1 million in 1950 to 4.5 million in 1995. The annual population growth rate was relatively rapid between 1950 and 1970, averaging 4.3 per cent. It then slowed to 1.6 per cent during the period 1970-1985 and increased to 3.5 per cent by 1995. In 1986, the city of Toronto had a population of 612,000. Within Metropolitan Toronto, the inner municipalities, including the city of Toronto, are losing population, while the outer municipalities have been gaining. The 1976 census reported a decline of 11 per cent in the population of the city of Toronto. Overall, however, the population of the metropolitan area increased by less than 2 per cent. In 1986, the city and the metropolitan area had densities of 6,220 and 3,450 per square kilometre, respectively. The population over age 65 is projected to increase from 12 per cent in 1986 to 19 per cent by the year 2000.

After the Second World War and until the mid-1970s, the Toronto region experienced rapid population growth which coincided with post-war prosperity and high levels of in-migration. Since 1976, the contribution of migration to the population growth of Toronto has been decreasing. During 1976-1977, for example, migration was responsible for 20 per cent of its population growth, declining to 7.5 per cent during 1977-1978. In 1978-1979, the city lost over 14,000 population due to out-migration, with the increase in population growth mainly due to natural increase.

ECONOMY

Due to its diversified economy, the Toronto region has one of the strongest regional economies in Canada, with a 1988 unemployment rate of 5.5 per cent. The level of unemployment among youth, however, is relatively high, being roughly twice that of the general population. In 1986, there were 1.2 million jobs in the metropolitan area, of which 42 per cent were office jobs, 21 per cent were in manufacturing and 11 per cent in retail trades. The port of Toronto handles more than 2.5 million tons of freight annually.

INFRASTRUCTURE AND SOCIAL SERVICES

The Municipality of Metropolitan Toronto (MMT) has been credited with having contributed substantially to shaping Metropolitan Toronto into one of the most effectively planned metropolitan areas in North America. Major achievements have included a strong and diversified industrial base, a successful mass transit system providing 70 per cent of trips to an enlarged central area, concentration of office employment near subway stations, and provision of housing for an additional 1 million residents, well-located with respect to public transport. In addition, MMT has upgraded the road system to provide improved access to industrial and commercial employment throughout the metropolitan area and provided an effective water supply and sewerage system.

In recent years, the number of households has been increasing more rapidly than the population as a whole. Between 1976 and 1985, the number of households increased from 713,000 to 820,500, an increase of 15 per cent. The increase in the number of households is attributed to the tendency for adults to move out on their own at an earlier age, the formation of new families and increase in the divorce rate. Consequently, average household sizes have declined from 2.98 persons per household in 1976 to 2.65 in 1985. In 1985, there were 847,000 housing units in the metropolitan area, with the majority of units being either apartments or single detached houses.

In order to meet future housing demand, the authorities have formulated a number of policies and programmes which include: encouraging new housing developments near transportation and employment, preserving existing housing and supporting infill housing, mixed use development and redevelopment of obsolete structures. Public and other non-profit organizations have produced about 65,000 "social housing" units representing 15 per cent of the rental stock. Most of these units are rented on a rent-geared-to-income basis where tenants pay between 16 and 25 per cent of their incomes on rent. There is an estimated need for some 35,000 additional rent-geared-to-income units.

The transit system in Toronto consists of a grid network of streetcars, buses, three underground rapid transit lines, and a light rail transit system. A commuter rail system brings workers from the surrounding regions to the downtown area. The transportation network is related to the multi-centred urban structures which are located along the rapid transit lines. The major transportation problem is the congestion of roads and transit facilities in the downtown area. It is expected that, due to population growth outside of the metropolitan area and employment opportunities within the city, the level of commuting into the metropolitan area will increase.

Toronto is not entirely free of problems. There is need for relief of congestion in the transportation network. Rents and purchase prices of houses sharply increased in the mid-1980s, leading to a shortage of affordable housing. The number of people requesting welfare assistance has risen, and current levels of assistance are seen as too low because of the high cost of housing. With 30 million tons of solid waste annually as of 1987, Toronto is running out of disposal sites within its boundaries, and has been seeking outside locations.

TRIPOLI
(Libyan Arab Jamahiriya)

Tripoli is the capital of Libyan Arab Jamahiriya, as well as its largest city and chief seaport. Situated in the north-western part of the country along the Mediterranean coast, Tripoli was known as Oea in ancient times, and was one of the original cities (together with Sabratha and Leptis) which formed the African Tripolis. The city was founded by the Phoenicians and later controlled by various peoples, including the Romans, the Vandals, the Byzantines, the Arabs, the Turks, the Italians and the British until 1951, when Libyan Arab Jamahiriya became the first colony in Africa to be granted independence.

DEMOGRAPHIC CHARACTERISTICS

The population of the country is highly concentrated in its two major cities, Tripoli and Benghazi. The growth of its urban areas is due not only to natural increase, but also to migration from rural to urban areas and, in the case of Tripoli, to its role as a centre of skilled manpower, which resulted in an influx of foreign workers. Other important factors which precipitated the growth of urban areas, including Tripoli, are the discovery and exploitation of oil and the inhospitable environment which favoured the concentration of population in cities and towns along the Mediterranean coast. The geographical location of Tripoli–it is situated on the edge of the rich agricultural area of the Gefara plain–as well as its access to transportation–it is located on one of the most important routes from the interior to the Mediterranean coast and is linked to Benghazi by a major coastal highway—have fostered the virtually uncontrolled expansion of Tripoli. The population of Tripoli urban agglomeration grew from 106,000 in 1950 to 399,000 in 1970, 3.3 million in 1995 and is projected to reach 5.3 million by the year 2010. A total of 70.4 per cent of the urban population of Libyan Arab Jamahiriya resided in the agglomeration in 1995.

ECONOMY

Tripoli is a major coastal centre which serves an agricultural region producing olives, vegetables, citrus fruit, tobacco and grains. Fishing is an important industry in Tripoli, and several canneries process the catch. Other industries include tanning and the manufacture of cigarettes and carpets. Tripoli also contains an oil depot and a gas-bottling plant. The port, nearby international airport, and road connections also make the city an important trans-shipment centre. Four of the five commercial banks of the country are located in Tripoli.

INFRASTRUCTURE AND SOCIAL SERVICES

The city of Tripoli is divided into old and new quarters. The ancient city lies along the harbour and contains a sixteenth century Spanish castle, the mosques of Gurgi and Karamanli, and the Marcus Aurelius triumphal arch. The modern city stretches to the south-west and houses the former royal palace and many of the official buildings, theatres and hotels. Tripoli is also home of Al-Fateh University, which opened in 1973.

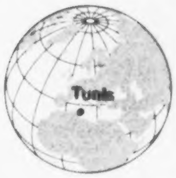
A coastal highway links Tripoli with Benghazi and Cairo. A rail link from Tripoli to the Tunisian border has been surveyed, and a railway from Tripoli and Sebha to the new industrial centre at Misurata has been planned. The port of Tripoli, with a capacity for some 541 vessels and a volume of 2,716,000 dwt in 1989, is facing increasing congestion and is undergoing large-scale expansion.

PLANNING ISSUES

To cope with population growth, rapid urbanization and an imbalance in population distribution among the different regions of the country, the Government has focused on urban and regional planning, attempting to reduce inequalities and offset the spatial imbalance by channelling oil revenues into extensive improvement and expansion of infrastructure, providing schools, houses, hospitals, jobs and facilities for the pursuit of leisure activities. In fact, master plans were prepared for Tripoli, Benghazi, Derna and Misurata as far back as the Italian era (1911-1942). At that time, new extensions were built to the pre-colonial centres; wide streets, roads and piazzas were laid out, gardens and parks were built, and multi-storey buildings, modern shops, markets, schools, hospitals and churches were constructed.

In 1966, five years after oil was first exported from Libyan Arab Jamahiriya, the Ministry of Planning and Development began an extensive urban planning programme designed to regulate urban expansion and to ensure that the benefits of the new-found wealth of the country would be accessible to as many Libyans as possible. The master plans, which extended into the late 1980s, were instrumental in bringing modern services including sewage systems, clean water and electricity into the country's urban regions. To guide future development, new physical plans were drawn up for all settlements in the country up to the year 2000; consultants were commissioned to prepare 33 master plans and 46 layout plans for Tripoli and the Western coastal districts. To coordinate spatial planning, the Government proposed the National Physical Perspective Plan, 1981-2000, as a guide for future development at the national, regional and local levels. While some restructuring and development is planned for other urban regions, no limits have been placed on the two largest cities in the country, Tripoli and Benghazi, which will continue to dominate the national urban system.

TUNIS
(Tunisia)



Tunis, the capital of and the largest city in Tunisia, is situated on the Northern African coast. Lying on the shore of the lake of Tunis, it is linked to the Mediterranean Sea by a narrow channel. The city has both an old and a modern section. The old section, the medina, is a crowded area with narrow streets. Founded by the Libyans before the ninth century B.C, Tunis flourished under Roman rule, but its importance dates back from the Muslim conquest in the seventh century A.D. It became the capital of Tunisia when independence was achieved in 1956. Tunis to date is a succession of suburbs stretching over a large area. Since the 1930s, land consumption in the region has increased by 4 per cent per annum. The city houses the headquarters of several international organizations. As of 1984, the urban agglomeration included all of the Governorate of Tunis and most of the population of the neighbouring Governorates of Ariana and Ben Arous.

DEMOGRAPHIC CHARACTERISTICS

The population of the urban agglomeration of Tunis grew from 472,000 in 1950 to 2.0 million in 1995. A population of 2.8 million is projected for the year 2010. The average annual rate of population growth declined from a high of 2.3 per cent during 1950-1955 to 1.9 per cent during 1955-1965, increasing to 5.0 per cent during 1975-1985. In recent years (1985-1995), the rate of growth has declined to about 3.1 per cent. Population density is much greater in the Governorate of Tunis (2,238 per square kilometre) than in Ariana (240 per square kilometre) or Ben Arous (342 per square kilometre). Population density in the modern part of the city is about a quarter of the population density in the traditional section.

Migration has played an important role in the growth of Tunis. The conditions that have encouraged steady internal migration from the rural areas of the country to the city include widespread rural unemployment, a harsh and unpredictable climate, and inadequate health, educational and other social services in the countryside. In the mid-1960s, as many as one in three residents of Tunis were migrants. In recent years, however, there has been a change in the pattern of mobility. It appears that Tunisians now prefer to move from rural areas to regional centres closer to their villages of origin, rather than moving on to Tunis. Tunis experienced rapid spatial expansion following independence; between 1956 and 1966, the city area almost doubled, and it doubled again from 1966 to 1984. Urbanization had spread to 17,000 square kilometres by 1993. Tunis had a large European population, most of whom (about 150,000 persons) left the country after independence. Whereas the European community represented almost a third of the population of the city in 1956, the proportion declined to below 4 per cent by 1966.

ECONOMY

The Tunis area is the chief industrial centre of Tunisia. Major industries are food processing and textile manufacturing. Other industries produce carpets, cement, machines and chemical, metallurgical and electrical products. Tourism is also an important source of revenue. Tunis houses the headquarters of most of the banks and insurance companies in the country. In 1984, about 12 per cent of the labour force of Tunis Governorate were self-employed, while 81 per cent were salaried workers. Open unemployment among males in the urban parts of Tunis District was about 11 per cent, as against 15 per cent for females.

Since independence, and notably after 1970, the tertiary sector in Tunis has expanded rapidly. Most of the service employees work in administration and commerce. In 1975, about 56 per cent of the active population of the city were employed in services. During the early 1980s, employment in the banking sector increased by 10 per cent annually and office space by 10-20 per cent. In the early 1980s, there was a modest expansion of jobs in Tunis. The development of export-oriented industries has played a crucial role in this process. Nevertheless, the level of demand for labour in the city has consistently lagged behind the growing supply. This expansion of labour supply is related to the entrance of the large cohort of young people into the labour market, as well as to increased female labour force participation.

INFRASTRUCTURE AND SOCIAL SERVICES

In 1975, the District of Tunis identified employment provision as the most critical problem facing urban planners. Other major problems were related to housing, sanitation and public transport. Data from the 1984 census indicate considerable improvements in the provision of basic services. The proportion of households with access to running water, for example, increased from 70 per cent in 1975 to 89 per cent in 1984. In 1975, the old city and its suburbs housed an estimated population of 430,000 and covered about 80 square kilometres. The new town and its suburbs had a comparable population spread over a much larger area.

Although the population and urbanized area of Tunis expanded rapidly from the 1960s to the 1980s, the municipality had no overall plan for controlling population growth and providing services. Since 1987, however, when Zine El-Abidine Ben Ali became president of the country, there has been a new emphasis on decentralization of government and improving cooperation between levels of government. Progress has been made, especially in the area of housing. In 1975, about 45 per cent of the city population, earning less than 50 dinars a month, lived in the medina and its two suburbs and the spontaneous settlements, which together accounted for a little more than a tenth of the total residential area of the city. The middle-income groups earning between 50 and 80 dinars lived in the "popular cities" that occupied 15 per cent of the total area. The upper and middle-income classes that constituted less than a third of the total population lived in garden suburbs, accounting for about two thirds of the total residential area of the city.

The "oukala initiative" was launched in 1990 to improve the substandard housing in the city. The municipality of Tunis assumed responsibility for management of a federal project and is coordinating operations between public and private agencies; at the same time, it is working with conservation groups to preserve the historic environment of the medina, where most of the poor housing is located. By the end of 1992, some 360 families had been resettled in new homes in the western suburbs. In addition, a whole range of incentives have been offered to assist and encourage owners to restore their property in the medina. The second stage of the oukala project involved relocating 415 families. The entire project required an investment of 20 million dinars.

The expansion of the tertiary sector has increased the demand for office space in the central zone, resulting in the loss of a considerable number of residential dwellings. Consequently, residential areas have been pushed out of the central zone towards the periphery. Whereas in 1956 the majority of the population lived less than 3 kilometres from the central core of the city, in 1975 about half of the population lived 4.5 kilometres from the centre, and a quarter of the population lived more than 7 kilometres away.

In 1981, about 80 per cent of the population of Tunis did not own their own car. Given that long distances typically separate places of residence and places of work, the demand for daily transportation has placed severe strains on the public transport system. At peak hours, the urban core is confronted with serious traffic congestion.

According to the 1984 census, some 31 per cent of the population of Tunis District was illiterate, although illiteracy was much lower in the age group 10-14 (6 per cent) than in the older age groups. The rate of illiteracy was 30 per cent in the age group 30-39 and 79 per cent at ages 60 or over.

The new emphasis on strengthening municipal government is a goal of the five-year development plan (1992-1996), and gains are evident in a number of areas, especially in the computerization of major municipal services and improved staffing levels. Even in land-use planning, the tendency is towards decentralization of functions. Under the 1993 City Centre Enhancement Scheme, buildings are being restored and investment encouraged, both to attract new job-creating businesses and to create an appealing location for tourists. Tunis has also been improving its environment, by adding green spaces, reducing landfill pollution, and reclaiming a polluted lake in northern Tunis.

PLANNING ISSUES

The Government has expressed a desire to reduce the rate of in-migration into Tunis and to increase out-migration. The principal policy being employed to change population distribution is the development of growth poles through the provision of support to industrial centres outside Tunis, the development of rural areas to retain rural population and the provision of fiscal incentives to new industries to locate outside the metropolitan area.

VIENNA
(Austria)

Vienna, the capital of Austria, has been one of the major gateways between East and West for more than 2,000 years. It is located on the Danube River, at the crossroads of ancient trading routes extending from the Baltic to the Mediterranean and between Eastern and Western Europe. As the centre of an empire that dominated Europe for centuries, it is the site of grand baroque palaces and public buildings, as well as museums and art galleries housing art treasures from every period of Western civilization. The city covers an area of 415 square kilometres and is the place of residence of 20 per cent of all Austrians. With the changes that have occurred in Eastern Europe, Vienna again finds itself at the geographical centre of renewed economic activity and political dialogue between East and West.

DEMOGRAPHIC CHARACTERISTICS

Vienna is the only Austrian city with more than 1 million population: about 2.1 million people lived in the urban agglomeration in 1995. During 1980-1995 population growth increased slightly. During recent years, the opening of the former Eastern Bloc led to the arrival of new migrants from South-eastern and Eastern Europe. About 7,000-8,000 migrants came to Vienna annually even before the Eastern frontiers were opened; subsequently, however, the number of in-migrants rose to more than 20,000 persons per annum.

Natural increase had been negative because of the excess of deaths over births, a reflection of the ageing population of the city, but a new baby boom has reduced the natural increase deficit. Deaths still outnumber births (20,900 deaths were recorded in 1992 as compared with 17,500 births), but the natural increase deficit has declined by about 50 per cent.

An above-average proportion of the population of Vienna has high level of education and vocational training. The age structure still has a large proportion of older persons; only 15 per cent of the population of the city are under 15 years of age. In 1992 the proportion of foreigners constituted approximately 16 per cent of the resident population.

ECONOMY

Vienna is the most important economic centre in Austria. Some 28 per cent of goods and services in the country are produced in Vienna. Its 1,600 industrial enterprises and 104,000 industrial employees generate 20 per cent of the total industrial volume of the country. The industrial enterprises headquartered in Vienna acount for 45 per cent of the industrial workforce of the country. The construction industry has been fully employed in recent years, particularly because of the large-scale civil and underground engineering projects that have been undertaken. These include the Vienna underground, urban renewal programmes and increased private construction activities.

As with many modern cities, Vienna is evolving into an international service centre. The city produces more than one third of tertiary-sector net product of Austria. The banking and finance industries have increased since the mid-1980s. Prospects for the future are favourable, as the location of Vienna in a unified Europe makes it well situated to be a commercial centre for trade between Western countries and the newly emerging market economies of Eastern Europe. Vienna is also a popular tourist destination, being the fourth (after London, Paris and Rome) most popular city in Europe.

Almost one quarter of employed population of Austria—including 180,000 commuters from the provinces—work in Vienna, which is the source of some 800,000 jobs. About 100,000 foreigners are officially employed in the city. Its labour market is known for its stability and lack of industrial conflict. A major reason for the stability is the employment structure of small and medium-sized enterprises in the city; more than 50 per cent of all employees in Vienna work in enterprises with less than 100 employees.

VIENNA

INFRASTRUCTURE AND SOCIAL SERVICES

Housing is a highly sensitive area for the city administration. In 1991, about 10 per cent of dwellings in Vienna had no toilet facilities and 35 per cent had no bathroom; the average resident occupied 33 square metres of living space. In 1982, the Rent Control Act was amended to ease rent control while stipulating that the major share of rental payments would be used for maintenance and building improvement. To promote the construction of new housing space and the rehabilitation of older buildings, municipal and federal authorities contribute to a fund that provides long-term, low-interest loans, as well as annuity and housing subsidies. About 90 per cent of the 5,000-7,000 new apartments built each year and about half of the 25,000 apartments renovated are financed by that fund. The total number of dwellings in Vienna increased from 617,078 in 1951 to 821,175 in 1981 and to 853,100 in 1991.

Transport is a major concern of the municipal authorities. To reduce congestion and air pollution, the city has resolutely supported public transport, expanding the bus network, resuming night bus service, constructing an underground system, extending the suburban railway system and adopting a fare policy that encourages the use of public transport. Vienna is afflicted by a serious parking problem. However, the flow of traffic is regarded as satisfactory as compared with traffic in many other large cities.

Municipal authorities consider environmental conditions in the city to be relatively good. Vienna has several natural advantages in this respect, including westerly winds that provide natural ventilation, an absence of major polluters and 119 square kilometres of green space and recreational areas within the city limits.

In principle, health services are available to every Vienna resident, the majority of whom are insured. Treatment of persons without adequate coverage is paid from the city social welfare fund. Assistance to the substantial number of elderly citizens in the city is one of the main tasks of social welfare in Vienna. Care for the elderly concentrates on improvement of health care and social support outside the hospital. Services include mobile nursing, home help, apartment cleaning, meals-on-wheels and other support programmes.

Vienna has a long history of providing social services to those in need, including children and young people, the poor and homeless, the disabled, drug users and the elderly. About 6,500 workers are employed in the city social service agencies. Financial support and benefits in kind are provided, and personal counselling and therapy are also available from a staff of psychologists, social workers, marriage counsellors and family therapists. The decentralized nature of the system stresses local availability of services, so that people may apply for help without leaving their neighbourhoods. In July 1993, the last gap in the social security network was filled when nursing services were made available to all who required them, regardless of their ability to pay.

Some social service facilities are operated under contract by private organizations but funded by the city of Vienna. The system of cooperation between public and private institutions has been very successful and allows the city flexibility in responding quickly to the needs of its residents.

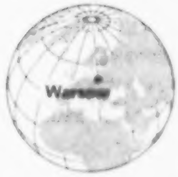
PLANNING ISSUES

Increased in-migration from Eastern Europe poses an additional challenge to the city government, particularly with respect to social and housing policies. In 1993, the federal government of Austria passed a new Immigration Act providing for annual immigration quotas tied to the development of the housing and labour markets. In spite of these measures, the municipal authorities of Vienna are aware that there would be high immigration rates in the coming years. They will mean a heavy burden on the social budget of the city, which already has to cope with a large number of refugees from the former Yugoslavia.

In 1984, a master plan for urban development was proposed. Its aim was to create a balanced spatial structure to ensure equal living conditions for the different parts of the city. The plan had assigned priority to comprehensive urban renewal and structural improvement, and had proposed that urban expansion be concentrated along public transport axes. Areas outside those axes were designated for forestry and agricultural uses, recreation and tourism. Housing construction was also given special priority.

The master plan for urban development is currently being revised with a view to adapting it to the changed geopolitical position of Vienna. The new master plan will emphasize development in a north-eastern direction from the city centre.

WARSAW
(Poland)



The first reference to human settlement in Warsaw dates back to the tenth or eleventh centuries. Warsaw was the capital of the independent Mazowia Principality from the end of the fourteenth century until 1526, when the entire principality was incorporated into the Kindgom of Poland. By the end of the eighteenth century, Warsaw had a population of 100,000 and was an important economic and cultural centre. Poland lost its independence just before the beginning of the nineteenth century and regained it in 1918, by which time the city population was about 1 million.

In 1990, 5.9 per cent of the population of Poland lived in the urban agglomeration. The city dominates the diplomatic relations of Poland with other countries; in foreign trade, however, several other urban centres are important, for example, Lodz—textiles, Katowice—heavy industry and Gdansk—shipbuilding. Prior to the Second World War, Warsaw encompassed an area of 141 square kilometres; after 1950, the area was subsequently enlarged to encompass 495 square kilometres. Warsaw was badly destroyed during the Second World War. In 1944, after the failure of the Warsaw uprising, the city was razed by the Germans. In 1945, however, Warsaw was repopulated and resumed its role as the capital of Poland.

DEMOGRAPHIC CHARACTERISTICS

At the beginning of 1945, after the Warsaw uprising, the city population remained at 162,000; in 1946 it increased to 538,500 and in 1950 to 819,000. The population of the urban agglomeration of Warsaw gradually increased from 1 million in 1950 to 2.3 million in 1995. It is expected that the population will grow to about 2.5 million by the year 2010. The average annual rate of population growth declined from a high of 3.7 per cent in 1950-1960 to 0.7 per cent in 1990-1995. In 1985, the central city had a population of 1.66 million. In the same year, natural growth (excess of births over deaths) was 1,700 for the central city and 6,200 for the metropolitan area. In 1991, the central city had a population of 1.65 million and a density of 3,412 per square kilometre.

It is estimated that some 600,000-800,000 residents of Warsaw died between 1939 and 1944. After the Second World War, Warsaw was repopulated by returning refugees and migrants from the countryside. Between 1970 and 1975, Warsaw is estimated to have received about 17,000 in-migrants annually, accelerating to about 24,000 annually during 1975-1980. For years, the majority of migrants had been commuting to work from the surrounding areas; others were students who remained in Warsaw upon completion of their studies and specialists who were employed by Warsaw enterprises.

ECONOMY

The economy of Warsaw is based primarily on Government activities and on the production of textiles, machinery, chemicals, iron ore, copper, coal and petroleum products. In 1991, 670,100 persons were employed in Warsaw, of which, 25 per cent were employed in industry, 11 per cent in trade and 9 per cent in construction. According to the Labour Office Register in June 1993, some 41,500 persons were unemployed in Warsaw. The unemployment rate in Warsaw is considered low, compared to other regions in Poland.

INFRASTRUCTURE AND SOCIAL SERVICES

The city of Warsaw was literally rebuilt from the ruins of the Second World War. This enabled city planners to direct urban development along more flexible lines and in a manner which was more consistent with ecological requirements. As a result, approximately 22 per cent of the territory of Poland is comprised of green areas, the majority of which are located in the major urban districts. However, post-war political decisions included the establishment of large industrial plants (for example, the steel mills) within city limits, presenting serious threats to air quality and to groundwater.

Public transportation, industrial emissions and the existing heating system all contribute to air pollution in the city. Although the central heating system in Warsaw is a major source of furnace emissions and sulphur dioxide, it is nevertheless more ecologically sound than a network based on a large number of small heating plants which run on coal. It is composed of four thermo-electric power stations and some 2,500 kilometres of hot water mains, and services approximately 75 per cent of all dwellings. Moreover, radially designed air corridors ensure relatively low levels of pollution despite the presence of significant emission sources. While Warsaw is not presently threatened by severe smog, the safe disposal and storage of large amounts of ash continues to remain a problem.

Automobiles have only recently begun to pose a serious pollution threat, since in the past, roughly 70 per cent of trips were made by public transportation (70 per cent by bus and 30 per cent by tram). The increase in automobile ownership has led to an increased use of automobiles at the expense of public transit. The predominance of older vehicles, coupled with the use of high-lead gasoline and the lack of catalytic converters, compounds the problem. Government authorities plan to restrict and possibly to eliminate individual automobile use within the city centre.

Approximately 94 per cent of the population of Warsaw were covered by municipal water supply in 1990. While the quality of water does not differ significantly from that in other European cities, attempts are being made to improve water purification methods in order to enhance water quality. The central waterworks network does not extend to the outer, less developed suburbs whose well water and other water sources, is often polluted because of its proximity to faulty septic tanks.

The sewerage system in Warsaw, which is well developed in the most populated areas, covered 91 per cent of its population in 1990. About 21.8 per cent of industrial and communal sewage were treated in 1991, while the remaining 78.2 per cent of untreated sewage were discharged directly into the Vistula River. The construction of a second sewage treatment plant is expected to be completed in 1996, increasing the amount of treated sewage to 55 per cent. Authorities foresee complete sewage treatment coverage sometime after the year 2000.

Solid waste management remains a problem in Warsaw. Despite the efficiency of the waste collection system, disposal of the 450,000 tons of waste collected annually is problematic, since the waste storage sites, which are located some distance from the city, pollute groundwater within a large radius. Preliminary measures have been taken to establish disposal and waste-utilizing plants; a compost producing plant which is expected to compost some 150,000 tons of waste annually was recently opened, and a composting and incinerating station with a capacity of 130,000 tons per annum will be completed in 1996. There are also plans to construct a modern ecological waste disposal site.

Since the 1970s, the development of Warsaw industry has resulted in the concentration of employment and services in the central city. This process has shifted labour from services, social facilities and health services to industry, and has strained the transportation and power systems of the city. Despite the fact that over 150,000 workers commute to Warsaw daily, traffic is light in comparison with that of most Western European cities. A surface tramway system operates on the main streets.

After the Second World War, the Warsaw housing shortage was alleviated by prefabricated housing units. Since then, the Government has made steady efforts to expand the city housing stock. New construction and rehabilitation of usable housing has been given high priority.

PLANNING ISSUES

A plan for the development of the Warsaw metropolitan agglomeration was drafted in 1976 and approved in 1978. The plan proposed a polycentric structure for the development of the country, which was expected to reduce migration to the capital. Rapid improvement of living conditions in other towns and regions of Poland, followed by a decline in the power of attraction was expected to reduce the influx of migrants to the metropolitan area. The plan envisioned that future urbanization would not take place in areas that had special environmental value, such as national parks and agricultural areas. The Warsaw plan considered it necessary to take practical measures to counteract the excessive concentration of employment and services in the central city. In 1978, the creation of new jobs in industrial sectors of the capital was prohibited.

In the post-war period, a number of limitations have been placed on the growth of Warsaw, in the form of laws and regulations enacted by the state and local government authorities. As of 1983, living in Warsaw without permission was against the law. Permits were not easily available and could be obtained only by specialists in certain professions, renowned artists and scientists, and persons whose family situations justified their moving to Warsaw. These limitations succeeded in curbing the growth of its population. The Government's decentralization policy aimed at maintaining a balance between the capital and the remainder of the country. Many administrative offices were relocated outside Warsaw, including mining, research, trade enterprises, textiles, shipping and the motion picture industry.

WELLINGTON
(New Zealand)

Wellington

Wellington, the capital of New Zealand, is located in the extreme south of North Island, on the shores and hills surrounding Port Nicholson, an almost landlocked bay which is considered among the finest harbours in the world. The city serves as port and chief commercial centre of New Zealand. Wellington became the seat of the central Government in 1865.

DEMOGRAPHIC CHARACTERISTICS

The population of Wellington grew from 159,357 in 1936 to 249,532 in 1961 and to 325,711 in 1986. It decreased slightly by 1991, with the 1991 census population of Wellington estimating it at 325,682. The population of the Wellington Regional Council, however, increased by 1.8 per cent between 1986 and 1991, reaching 402,892.

The population of Wellington is slightly younger than the population of New Zealand as a whole, with a median age in 1986 of 29.1 years as compared to 29.8 years for the entire country; it has a higher percentage of working-age population aged 15-64 years, 68.2 per cent as compared to 65.2 per cent for the entire country, and a smaller percentage of the elderly aged 65 years or over, 8.7 per cent as compared to 10.5 per cent for New Zealand as a whole. A total of 10.5 per cent of the population of the region was of Maori descent, accounting for just over 8 per cent of all Maori inhabitants in New Zealand.

Internal migration in New Zealand is characterized by a northward movement, with Wellington functioning as a distribution centre, gaining population from the South Island and losing it to northern regions, especially to Auckland, which accrued population at the expense of most other regions. Thus, Wellington experienced negative net migration between 1981 and 1986, despite the fact that it was the second major recipient of migrants after Auckland.

It is estimated that between 1981 and 1986, 35,240 persons migrated into the local Wellington government region from other parts of New Zealand, and 18,120 persons immigrated from other countries. The United Kingdom and Ireland contributed the largest share of immigrants. During that same period, it is estimated that 44,390 persons migrated from Wellington to other parts of the country and 18,640 emigrated overseas.

ECONOMY

Wellington is the banking and financial centre of New Zealand. The Wellington-Hutt area is an important industrial centre with apparel, textiles, footwear, transportation equipment and assembly, machinery, metal products, printed materials, processed foods, chemicals, soap, and rubber-goods factories; railyards, shipyards and oil-storage depots. The harbour, which serves both domestic and international shipping, imports petroleum products, motor vehicles and parts, coal and minerals, and exports frozen meats, newsprint, dairy products, wool, hides, and fruit.

There were 23,778 economic establishments in the Wellington Regional Council Area in 1991, with a majority of the 171,561 economically-active persons found in community, social and personal services; wholesale and retail trade, restaurants and hotels; business and financial services; and manufacturing.

INFRASTRUCTURE AND SOCIAL SERVICES

Wellington is the transportation and communications hub of New Zealand. Rail and road services extend to all parts of North Island, and steamers to Christchurch and Picton link the city with transportation services on South Island. The Wellington airport connects the capital with major cities throughout the world, and is the focal point of the internal aviation network. The harbour serves domestic and international shipping.

Among the notable institutions in Wellington are the National Art Gallery and Dominion Museum, the Parliament buildings, town hall, the central library, Victoria University of Wellington, the Anglican Cathedral and the Government building, one of the world's largest wooden structures.

YANGON
(Myanmar)

Yangon (formerly Rangoon) is the capital of Myanmar (formerly Burma). The city is located at the junction of the Yangon and Pegu rivers in a relatively densely populated plain. The Yangon River flows to the sea some 30 kilometres away. The city attained political and economic importance in the mid 18th century. Modern Yangon was established by the British in the mid 19th century after they occupied the city for the second time in 1852. Today, few traces of pre-British settlements remain. The city experienced a massive earthquake and tidal wave in 1930 and was the scene of intense fighting between the Allies and the Japanese during the Second World War. As the primate urban centre of the country, Yangon is the economic, political and administrative heart of Myanmar. Greater Yangon includes various satellite towns and suburbs and has an area of about 500 square kilometres. The city's religious shrines attract pilgrims from all parts of the country.

DEMOGRAPHIC CHARACTERISTICS

Yangon had a population of 235,000 inhabitants in 1901. The population of the Yangon urban agglomeration grew from 687,000 in 1950 to an estimated 3.9 million in 1995. The average annual rate of population growth increased from 3.6 per cent during the period 1950-1970 to 4.6 per cent during 1975-1985, declining to 3.1 per cent during 1990-1995. The population of Yangon is projected to reach 6.3 million by the year 2010. About 32 per cent of the urban population of Myanmar lived in Yangon in 1995.

ECONOMY

Myanmar is a poor country which, in 1987, asked the United Nations to classify it among the world's least developed countries. Yangon is the most important commercial and industrial city in Myanmar. The city is located at the centre of the national transportation and communication network. Almost all the import and export trade in the country, as well as substantial coastal and river trade, passes through Yangon's port. More than half of the manufacturing industries in the country are located in Yangon, which is also the dominant service centre. Major industries produce pharmaceuticals, soap, rubber, textiles, aluminum, and steel. Factories assemble motor vehicles, bicycles, and radio and television sets. The city also contains the largest rice mills and sawmills.

In 1982, 53 per cent of the labour force in Yangon was employed in the public sector (including the small-scale cooperative sector), and the remaining 47 per cent were in the small-scale private and "casual" sector. The public sector includes public administration and all large and medium-size manufacturing and service establishments. In 1980, about 15 per cent of the total registered labour force was employed in manufacturing and processing industries, in both the public and private sectors.

Unemployment has been high in Yangon, even among well-educated youth, and continuing in-migration from the countryside has further swelled the ranks of the unemployed. However, small-scale private workshops and trading firms have proliferated in recent years, leading to increased demand for labour. The introduction of the market economy in Myanmar underlies efforts to encourage privatization.

As of the mid 1980s, there was little difference in per capita income levels between Yangon and the rest of the country, which is consistent with the official Government policy of avoiding disparities in income. Yangon's poorest areas are satellite towns which have little public or informal sector employment.

INFRASTRUCTURE AND SOCIAL SERVICES

On September 18, 1988, the State Law and Order Restoration Council took power in Myanmar. One of its first projects was to clean up the streets in Yangon that had been blockaded and strewn with garbage during the turmoil and demonstrations. This was accomplished with the help of volunteers from every part of the city. Since that date, numerous modernization and reconstruction projects have been undertaken in Yangon, including roads, bridges, parks, hospitals, and schools. Religious monuments also have been restored and renovated.

The Yangon City Development Committee (YCDC), which was created in 1990, is the municipal authority that manages the city. The YCDC is an independent body responsible directly to the Head of State. Its chairman, the Mayor of Yangon, holds the rank of Minister. Through its eighteen departments, the YCDC operates the city and delivers services to its citizens.

Resettlement of squatters in new satellite towns was a priority for the YCDC. The State provided infrastructure and plots; squatters paid a nominal land development fee and built their own houses. Government employees were also given incentives to settle in the satellite towns; they received land and were able to obtain housing loans from the State bank. Industrial zones were provided in each town for employment opportunities.

The total length of roads in Yangon nearly doubled, from about 800 to 1,600 kilometres, between 1991 and 1993. In addition, main roads are being widened and upgraded. Traffic congestion has been severe, partly as a result of the concentration of most activities in the southern part of the city. Efforts to encourage deconcentration are currently under way. The new Bayintnaung Commercial Complex, which houses the city's central market, was built north of the downtown area on a newly constructed road. Its 21 acres contain 800 warehouses, over 1,000 shops, and a cargo truck terminal.

In spite of the extensive modernization of the city, Yangon still faces problems in the supply of urban services, including transport, water supply, sewerage, energy distribution and educational and health facilities. Some of these services are completely absent, while others are in need of upgrading. The primary sources of water supply of Yangon are a number of lakes and reservoirs around the city. Rapid population growth has necessitated the construction of new reservoirs and artesian wells in order to supplement the supply of water. Water quality and the distribution network, however, are reported to be unsatisfactory. Yangon has had a sewerage system since 1892. However piped sewerage is confined largely to the central area of the city, while the new towns are in need of extensive additions. The dumping of untreated residential and industrial waste into the river is a major source of environmental pollution. Social facilities such as primary schooling have received more attention, although there is still severe overcrowding in schools and health care centres.

Many buildings in Yangon are constructed of traditional bamboo and palm thatch. Two- or three-storey timber-framed construction and some masonry buildings can be found in the better located, more densely populated areas. Some of the areas are subject to flooding, and road access and public transport services are deficient.

The growth in employment in recent years has increased pressure on an inadequate public transport system. Local rivers provide an important means of transportation. As of the mid 1980s, bus transport was grossly overcrowded. To assist commuters in their journey to work, 300 new buses were imported from France and Israel in 1990. The city also has a suburban railway loop, which has been underutilized.

PLANNING ISSUES

The 20-year development plan for 1973-1993 included a policy of diverting investment away from Yangon wherever possible, but under the YCDC many new public projects have been located in the city. Industry, especially heavy industry, had been fairly widely dispersed throughout the country. In order to migrate to the capital, potential migrants are required to obtain permission from the people's council.

The Government has built a series of satellite towns on the outskirts of various cities, including Yangon, and has relocated population to them, in what it has termed a beautification programme to re-house squatters. In 1989, the Government announced that about 160,000 squatters would be relocated to the five new satellite towns surrounding Yangon. Some sources, however, have estimated that up to 250,000 people have been moved out of the city.

REFERENCES

The references for this volume are divided into two sections: the first contains the general references used for the introductory chapter and for background information throughout the volume; the second, which is presented by city, contains the references used in the individual city profiles.

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